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Glossary of Macroeconomic Terms

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October 2015

pwc

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List of abbreviations

ASEAN	The Association of Southeast Asian Nations
BoP	Balance of Payments
CFA	African Financial Community (Francophone)
CIS	Commonwealth of Independent States
COMESA	Common Market for Eastern & Southern Africa
CPI	Consumer Price Index
CPIX	CPI, excluding the interest costs of mortgage loans
DBSA	Development Bank of Southern Africa
EEC	European/Eurasian Economic Community
EEU	Eurasian Economic Union
EU	European Union
FDI	Foreign Direct Investment
GCR	Global Competitiveness Rankings
GDE	Gross Domestic Expenditure
GDP	Gross Domestic Product
GNI	Gross national Income
GNP	Gross National Product
GPT	General purpose technology
HPAE	High Performing Asian Economy
IMF	International Monetary Fund
IPO	Initial Public Offering
JSE	Johannesburg Stock Exchange
MNC	Multinational Corporation
MPC	Monetary Policy Committee
MVA	Manufacturing Value Added
NER	National Electricity Regulator
OECD	Organisation for Economic Cooperation and Development
PCE	Private Consumption Expenditure
PPI	Producer Price Index
PPP	Purchasing Power Parity
PTA	Preferential Trade Area
REER	Real effective exchange rate
REIPPP	Renewable Energy Independent Power Producer Programme
RoR	Rate of Return
SACU	South African Customs Union
SADC	Southern African Development Community
SARB	South African Reserve Bank
SARS	South African Revenue Services
SDR	Special drawing right (of the IMF)
SOE	State Owned Enterprise
SSA	Sub-Saharan Africa
Stats SA	Statistics South Africa
TFP	Total factor productivity
VA	Value Added
VAT	Value Added Tax
WEF	World Economic Forum
WTO	World Trade Organisation

Ad valorem tax

Also often referred to as ad valorem tariff or duty, it can be defined as:

> *A tax levied as a fixed percentage of the value of a product.*

Derived from the Latin term meaning ‘according to value’, ad valorem taxes represent the most common global forms of indirect taxation. They are utilised, inter alia, for the generation of sales tax; value added tax; property tax; and customs duties.

Most customs duties in South Africa are ad valorem-based, but in some cases the duties are calculated as cents per unit (for example, per kilogram or metre). Examples include meat, fish, tea and certain textile products. In South Africa, additional ad valorem excise duties are also levied on a wide range of luxury or non-essential items such as perfumes, firearms and arcade games.

➲ See also: *Taxation*

Administered price

> *The price of a good or service as determined by a governmental or other public sector agency (as opposed to a market price, which is determined by regular market forces of supply and demand.*

Examples of administered prices include electricity tariffs, fuel levies, airport departure charges and port tariffs. According to the OECD, the definition also encompasses private firms that do not set the prices of their products or services at marginal cost.

In economic theory, market prices are regarded as efficient due to the equality between marginal cost and marginal revenue achieved under conditions of perfect competition. In practice, however, several industries exhibit the characteristics of a natural monopoly, especially where substantial capital costs are required (e.g. an electricity generation grid or a large dam).

In such cases the market mechanism is not designed to produce efficient levels of prices and of output, as marginal cost curves are often downward-sloping. Public sector regulation is then required to ensure an adequate supply of the particular product or service, especially in the areas of fixed line telecommunications; electricity; water; and transport modes.

According to Storer & Teljeur (2003), administered prices equate to so-called ‘second-best’ options. In the case of electricity, the National Electricity Regulator (NER) has adopted a conventional rate of return methodology (RoR) for setting prices. This method sets prices at a level that allows Eskom to recover all the expenditure that has been incurred in the production and supply of electricity, plus a fair rate of return on its productive assets.

In the case of fixed line telecommunications, regulatory accounts should provide detailed cost information that is required by the regulator in setting both retail and wholesale price controls and in broader monitoring of price-setting behaviour.

According to the Storer/Teljeur study, however, a number of loopholes exist in the relevant legislation (including the licence conditions) that provides extensive scope for Telkom to circumvent this requirement in practice.

Aggregate demand

Four demand factors exist in an economy and each will be briefly discussed. They are: private consumption expenditure; capital formation (fixed investment); government consumption expenditure; and exports.

The table depicts the values and the relative shares of the four demand factors in South Africa in 2014, including imports, which need to be deducted from aggregate demand to arrive at GDP (from the expenditure side of the macro-economy)

Composition of GDP 2014 – demand-side (at market prices)

	R bn
Household consumption	2 299
Government consumption	772
Fixed capital formation	773
Exports	1 186
Statistical residual	23
Aggregate demand	5 054
Less: Imports	1 257
Total GDP	**3 797**

Source: SARB

1. Private consumption expenditure

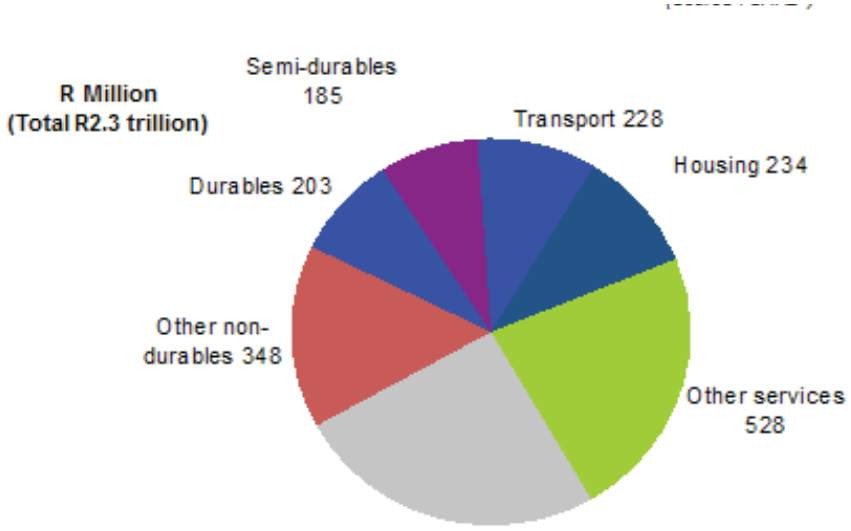
Households constitute the most important source of demand in an economy and the consumption function is also the only demand function that exhibits a positive slope in terms of basic Keynesian analysis (in relation to national income - Y). For purposes of macro-economic analysis, consumption is mainly influenced by income.

Autonomous consumption (C) derives from that portion of consumption that is not affected by the level of income, e.g. when saving during a previous period is utilised. The marginal propensity to consume is calculated by dividing any change in C by the corresponding change in Y.

The variables influencing private consumption expenditure include the following:

- Interest rate levels (especially for durable consumption)
- Price levels in the economy
- Taxation rates
- Consumer confidence levels
- The availability of credit

The figure illustrates the composition of key categories of household consumption expenditure in 2014, confirming the dominant roles of services and food & beverages.



2. Capital formation

Capital formation is often referred to as fixed investment, representing the dynamic element of fixed capital stock. New investment in productive capacity is added on to a country's capital stock, and after deductions for depreciation, equates to the new net capital stock. Additions to inventories also form part of domestic fixed investment.

The two most important variables influencing investment decisions are interest rates and expectations regarding future demand. For the purposes of a short-term analysis of the relationship between investment and output, it may be assumed that current capital formation decisions are based on past expectations for growth in demand, yielding an autonomous capital formation function.

The relationship between capital formation and interest rates is a negative one, simply because higher interest rates increase the marginal cost of investment through higher interest charges on external funds and the higher opportunity cost of internally utilised funds (retained profits). Investment is nevertheless also influenced by other factors, especially anticipated future demand and business confidence levels.

The capital formation category for household investment in new residential buildings is particularly sensitive to interest rate changes. Most new house purchases are financed by mortgage loans, and fixed salary earners have very specific limitations on the affordability of purchases of houses, which often entails a mortgage bond payment/income ratio of as high as between 20% and 30%. High interest rates have, in the past, fuelled or even caused recessionary economic circumstances, although they are often regarded as necessary in order to combat high inflation and excessive money supply growth. Other variables that influence capital formation decisions include the following:

- The availability of adequate supplies of natural resources and skilled labour.
- Socio-political stability.
- In an open, unregulated economy, the level of interest rates elsewhere in the world.
- Retained company earnings from past output activity.
- Technological changes.
- Anticipated growth in the world economy

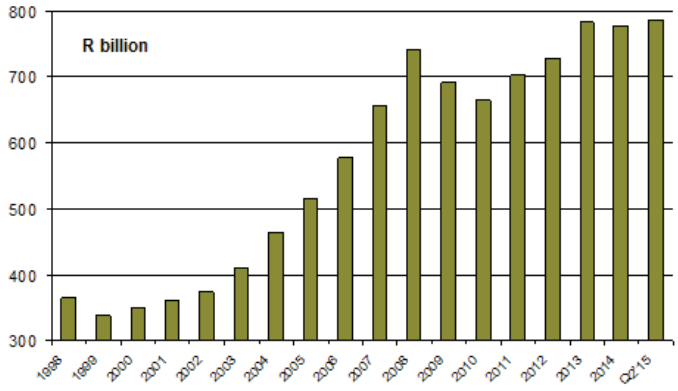
The table illustrates the composition of capital formation in 2014 by type of asset (ranked by value), whilst the slides depict a long-term upward trend for this key determinant of future economic growth (for both the private & public sectors). The public sector continues to lag behind the private sector, however, indicating the development of an infrastructure gap, particularly in certain modes and regions.

Capital formation by type of asset - 2014

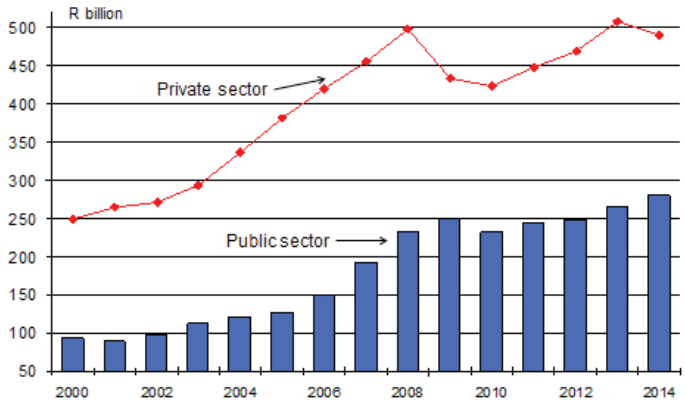
	R bn
Machinery & other equipment	247.7
Construction works	230.8
Transport equipment	86.7
Non-residential buildings	62.5
Residential buildings	55.5
R&D, software & other	38.0
IT equipment	37.4
Transfer costs	10.6
Total	**769.2**

Source: *SARB*

Significant long-term expansion of capital formation in absolute terms (at constant 2014p) *(Source: SARB)*



Private and public sector capital formation at constant 2014 prices *(Source: SARB)*



As a ratio of GDP, capital formation has hovered at between 15% and 17% during the early post-democracy era, rising to above 20% in 2014. This figure remains lower than the world average of 24.5%, however, and also lags countries such as China (48%), Indonesia (35%), India (31%) and Singapore (28%).

3. Government expenditure

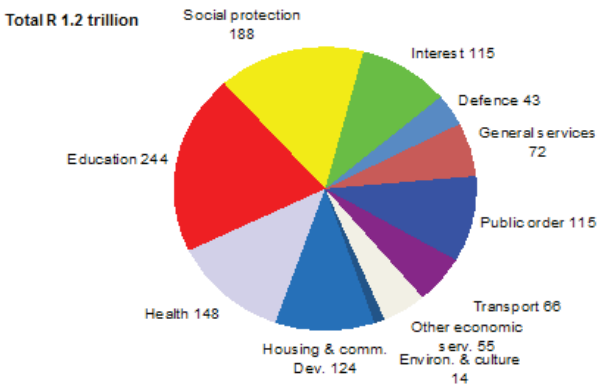
A government's expenditure decisions involve both current and investment expenditure. The latter is mostly associated with the provision or maintenance of socio-economic infrastructure, such as roads, bridges, or public schools, whilst private sector investment decisions are related to a country's production structure, such as new factories. The South African government, like every other government the world, plays a pervasive role in the economy, especially through its contribution to aggregate demand. Government, at all three tiers, is a major employer; it rents large areas of office space; procures a large variety of goods and services (e.g. stationery and motor vehicles); and provides goods and services that the market mechanism does not supply (or supplies inadequately).

A government also affects the economy through its fiscal decisions (higher taxes reduce disposable income levels and vice versa) and through its economic policy stance. The Reconstruction and Development Programme (RDP) represented the first democratically elected government's socio-economic strategy, which was later subsumed by the Growth, Employment and Redistribution (GEAR) strategy. The latest approach towards macroeconomic policy is embodied in the National Development Plan (NDP). All of the post-democracy economic strategies emphasise development and economic equity, particularly through the creation of economic opportunities for previously disadvantaged communities.

The figure depicts the composition of government expenditure for the 2014/2015 fiscal year, in terms of its functional classification. These figures include the expenditures of both central and provincial government.

Since 1994, a fairly dramatic shift has predictably occurred in the prioritisation of government expenditures. In relative terms, significantly less has been spent on defence, infrastructure and economic services, whilst larger allocations have been made to social security and welfare.

Composition of government expenditure (functional classification) FY 2014/15 (Rb)



For the purposes of aggregate demand analysis, government expenditure is viewed as independent of output in the short term. This is an entirely realistic assumption, as government expenditure decisions are based upon an annual budget, which stays operational during the current period of economic activity.

Governments are supposed to stick to their budgeted expenditure levels, as any divergences may have significant implications for economic policy in general. For example, if actual expenditure exceeds the budgeted figure by a meaningful margin, and taxation revenues remain within the budget targets, a government will have no option than to increase its borrowings, which may increase interest rates and eventually lead to a decline in private consumption expenditure.

4. Exports

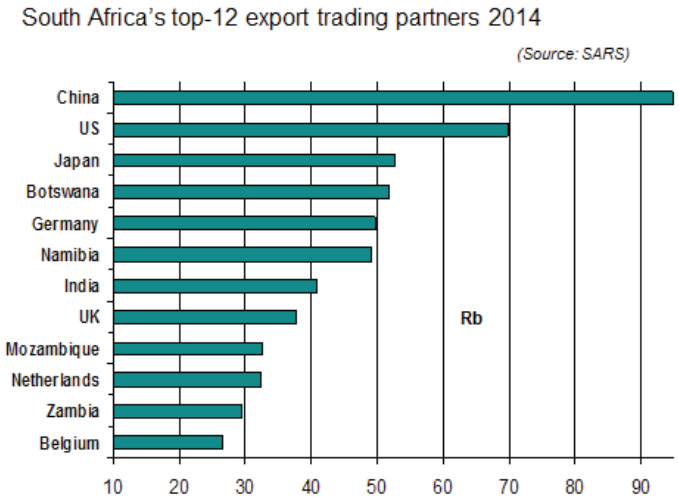
Foreign trade exerts a significant influence on most economies in the world, and the South African economy is particularly sensitive to import and export trends. Combined, imports and exports constitute almost 60% of South Africa's GDP (in 2014), which is considerably higher than the trade/GDP ratios of the United States, Japan and Brazil, but lower than the ratios of most of the world's emerging markets.

The export function itself is also regarded as an autonomous function vis-à-vis domestic output. The reason is that the rest of the world's demand for South African products is related to world GDP trends, and not short-term fluctuations in domestic output.

A realistic export function will also include the following causalities:

- The existence of export incentives (as part of government's macroeconomic strategy)
- The existence of preferential international trade agreements (e.g. the Africa Growth Opportunity Act – AGOA legislation of the US, which allows qualifying countries in Africa to export a wide range of products to the US duty-free)
- International trade restrictions
- The level of domestic tariffs
- Exchange rate fluctuations

The figure illustrates South Africa's key export trading partners, which indicates the importance of trade within the SADC region. It should be pointed out that exports to China are dominated by two categories, namely coal and iron ore, with relatively little exports of high value added products.



5. Shifts in the aggregate demand curve

In theory, an inverse relationship exists between the price level in the economy and total demand. This is because an increase in the price level causes the purchasing power of income to decline, leading to a drop in demand.

In practice, the key factors that will cause aggregate demand to increase (i.e. demand is higher at every level of prices) include the following (in the short to medium term):

- Lower tax rates (via increased household consumption expenditure and higher levels of capital formation
- Increased government expenditure levels
- Expansionary monetary policy (via an increase in the money supply, which lowers interest rates and stimulates spending)
- Increased world growth (via an increase in the demand for exports)
- A currency depreciation (via higher export earnings in domestic currency terms)
- Higher levels of investor and consumer confidence (via higher spending and capital formation on the basis of anticipated future increases in incomes and profits)

See also: Keynesian policy; *Automatic stabiliser (public finance)*

Aggregate supply

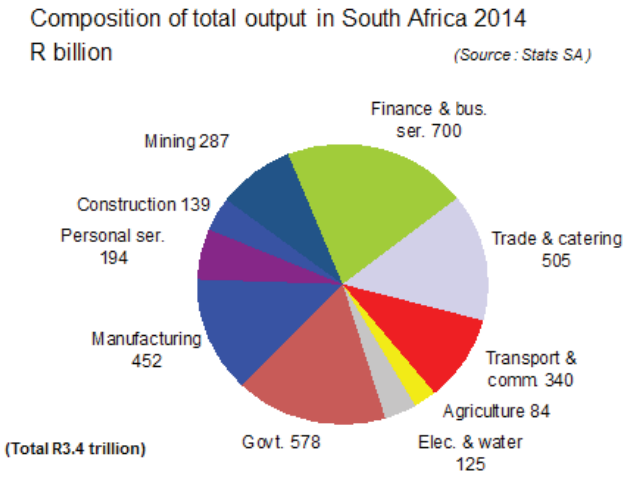
In a so-called closed economy (no foreign sector), aggregate supply and gross domestic product are synonymous terms, with both defined as the value of all final goods and services produced within a country within a certain period, normally a calendar year.

In practice, however, international trade represents a key source of imported goods and services in most countries, whilst a significant portion of domestically produced goods are also sold abroad. Aggregate supply should therefore be defined as:

> *The total amount of goods and services available for consumption, capital formation and exports, including imports.*

It should be noted that, in the absence of any change to inventory levels from one national accounting period to the next (usually quarterly), aggregate supply will equate to aggregate demand.

The figure illustrates South Africa's total economic output in 2014 by key sector, also referred to as total value added.



Until the Great Depression of 1929 (lasting until 1939), the economics profession was not overly concerned about disequilibrium between total demand and total supply, but the decade-long prevalence of high unemployment and negative output growth forced a re-think of the classical doctrine related to supply creating its own demand (referred to as Say's Law).

Today, it is clear that excess demand in the economy can lead to inflation and the erosion of purchasing power. In a competitive world economy, higher inflation in one country automatically erodes its competitiveness and is usually followed by a depreciating currency which, as a rule, results in a vicious cycle of even higher prices (due to higher import prices).

Conversely, excess supply over demand in an economy leads to a decline in orders placed by retailers and wholesalers, creating a domino effect into domestic manufacturing sectors and also imports, usually followed by a loss of jobs and a decline in real output.

Such an unfortunate turn of events also places pressure on a country's public finances, mainly via a decline in taxation revenues.

Supply (production) factors

No supply (output) is possible without some combination of the factors of production. Four groups of supply factors generally constitute the so-called supply-side equation, namely capital; labour; natural resources; and entrepreneurship.

Supply-side equation

In a modern free enterprise economy, the supply-side equation can be postulated as:

Y = a (C + L + NR + E)

Where:	a =	change in efficiency/technology
	Y =	aggregate output (value added)
	C =	capital stock
	L =	Labour
	NR =	natural resources
	E =	entrepreneurship

This equation is identical to the one discussed under the term production function. It should be noted that the simple Harrod-Domar production function has been amended by a number of leading economists, including Kuznets (1965) and Thurow (1970).

The reason for expanding the fundamental theory of economic growth was to find explanations for some of the basic differences in growth performance between nations.

Modern textbooks on economic development and the sources of economic growth now emphasise the importance of a variety of causalities not explicitly included in traditional production function analyses that concentrate on the stock of capital and the size of the labour force.

The dynamic factor a in the above equation can account for a variety of changes to technological progress and the general level of efficiency with which the production factors are utilised in the process of generating output, including the following:

- Urbanisation, especially if accompanied by adequate levels of investment in socio-economic infrastructure
- A rise in the relative importance of economic achievement in the scale of social values
- Shifts between the sectors that make up the output side of the production function (mainly in the form of an increase in the relative share of industrial value-added)
- Investment in human capital
- Enhanced upward economic mobility of workers as a result of the broadening of incentives for higher productivity and achievement levels
- The ratio of the marginal product of any single factor of production to the quantity of the other factors with which it operates

See also: *Production function; aggregate demand*

Anti-cyclical economic policy

The deliberate implementation of economic policy measures by government (and its agencies) designed to counter the general trend of the business cycle.

Anti-cyclical economic policy is a much broader concept than discussed under the term "automatic stabiliser". Once the latter is present as an integral part of overall policy (e.g. a system of progressive personal income tax) it does not necessarily require any specific government intervention.

When economic stability is threatened, however, by a short-term occurrence such as an overvalued currency (as was the case in South Africa during and immediately after the 2008/09 recession) a government can decide to intervene in the market by either encouraging imports or discouraging exports (or both).

Several emerging market economies in South America and Asia pursued such policies during 2009 and 2010, mostly via surcharges on exports or tax incentives for imports, especially of capital goods such as machinery and equipment.

It is important to note that anti-cyclical economic policy works in both directions. If a country's currency is experiencing a fairly sharp depreciation, measures can be considered to curb imports and encourage exports. Import replacement policies have been around for more than a century and specific measures include import duties; quotas; preferential procurement by public sector agencies (of local goods); and buy-local campaigns.

Despite long-standing attempts by the World Trade Organisation (WTO) to free up world trade, many countries have tried to side-step WTO protocols aimed at lowering or eliminating import tariffs by so-called non-tariff barriers to trade. These include labelling requirements and copyright on product names (such as port and champagne).

Furthermore, the discretionary component of anti-cyclical economic policy is always a short-term intervention, as opposed to automatic stabilisers, which are usually an inherent part of fiscal policy.

Monetary policy can also play an important role in anti-cyclical economic policy. When the economy is experiencing a downward phase of the business cycle, most central banks will tend to follow an accommodating monetary policy by lowering the official lending rate (this is the rate at which central banks provide bridging finance to the commercial banking sector).

As a rule, any lowering of this rate (in South Africa the repurchase - or repo – rate) is automatically followed by a lowering in the prime overdraft lending rate of the commercial banks and vice versa.

The purpose of anti-cyclical economic policy is to cushion the economy from the effects of abrupt or volatile changes to key indicators (such as unemployment, inflation and the exchange rate) in an attempt to prevent undue peaks and troughs in the business cycle.

➲ See also: *Fiscal policy; automatic stabilisers*

ASEAN

The Association of Southeast Asian Nations

ASEAN was established in 1967 in Bangkok, Thailand, by the five founding countries, namely Indonesia, Malaysia, Philippines, Singapore and Thailand. These five countries are commonly referred to as the ASEAN-5.

Membership was subsequently expanded to include Brunei Darussalam (1984), Viet Nam (1995), Lao PDR and Myanmar (1997), and Cambodia (1999), resulting in ten current member states of ASEAN.

Automatic stabiliser (public finance)

The key objective of economic stabilisation policy is to prevent the economy from so-called "over-heating" (when aggregate demand exceeds aggregate supply) or from stagnation (when aggregate supply exceeds aggregate demand).

In performing this task, national treasuries may be assisted by so-called automatic stabilisers, which can be defined (in the domain of public finance) as:

Government spending programmes and taxation policies that are designed to offset undue fluctuations in a country's aggregate economic activity (GDP) without explicit intervention by the policymakers.

In effect, an automatic stabiliser assists economic policymakers in preventing undue peaks and troughs in the business cycle. The best-known examples in the area of fiscal policy are progressive rates of personal income taxes and transfer payments such as unemployment insurance benefits and welfare.

The stabilising effect on the business cycle can be explained as follows: When the economy is growing at a rapid pace, unemployment usually declines and government expenditure on unemployment insurance benefits is similarly lowered, reducing the level of public sector demand in the economy and stemming the tide of higher demand inflation.

The opposite occurs during a recession, which automatically stimulates the economy when increased demand is much-needed.

This has the effect of cushioning the economy from changes in the business cycle. Similarly, total net transfer payments such as unemployment insurance decline when the economy is in an expansionary phase, and rise when the economy is mired in recession.

Automatic stabilizers are so called because they act to stabilize economic cycles and are automatically triggered without explicit government intervention.

➲ See also: *Fiscal policy; anti-cyclical economic policy*

Balance of payments

The record-keeping procedures involved with international economic relations is embodied in the balance of payments (BoP), which can be defined as a systematic record of all the transactions between residents of a country and the rest of the world.

These transactions are mostly related to import and export trade; investments; and dividends & interest flowing from such investments. A country's balance of payments is therefore simply an accounting exercise with all financial inflows regarded as credits (e.g. export earnings) and all financial outflows regarded as debits (e.g. payments for imports or dividends to foreign shareholders).

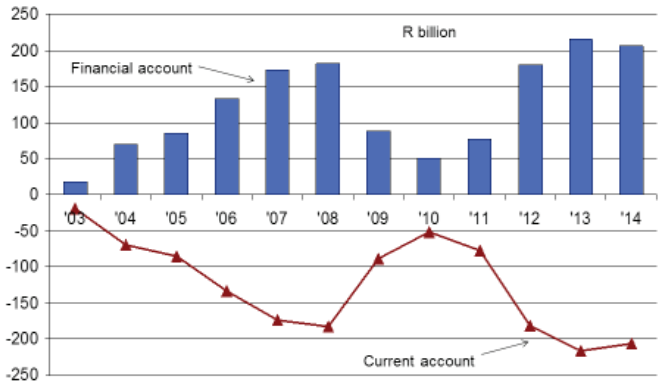
The BoP is regarded as the chief statistical aid for the assessment of a country's international financial position, and it provides a reliable empirical record of the results of all the financial flows between one country and its trading partners.

Two sub-accounts comprise the bulk of the transactions represented in the BoP, namely the current account and the financial account. The former includes the imports and exports of all merchandise goods as well as the services and income categories. Dividend and interest payments to and received from the rest of the world are included in the latter.

Financial account flows are restricted to three categories, namely foreign direct investment; portfolio investment; financial derivatives and other investments, including property sales & purchases. Portfolio investment is mainly represented by equity and bond transactions.

The figure illustrates the mirror-like performance of the current and financial accounts of South Africa's BoP over the past 12 years, which is a textbook example for an emerging market that requires investment inflows to balance a substantial import bill, especially for machinery & equipment, oil and intermediary inputs.

Balance of payments trends – a mirror image for the current & financial accounts *(Note: constant 2015 prices; Source: SARB)*



Although South Africa continues to experience substantial deficits on the current account of the BoP, net positive financial account inflows have provided the overall BoP with a sizeable net surplus over the past decade. It is clear, therefore, that the country has been experiencing consistent, albeit modest increases in its foreign reserves.

It is important to note that a deficit on the current account of the BoP is not necessarily a negative economic phenomenon, much in the same way as a bank overdraft is not necessarily a negative business phenomenon.

In fact, a surplus on the balance of payments may constitute a problem for a developing country that has employment and output growth as key objectives of macroeconomic policy.

The reason is simply that a surplus could be an indication of low growth (as reflected in low imports), and could also lead to a strengthening of the domestic currency (which is good for price stability, but erodes export earnings in domestic currency terms).

Before an assessment can be conducted of a particular surplus or deficit on the BoP, it is necessary to take the following factors into consideration:

- A country may, for example, have imported a substantial amount of capital equipment and sophisticated intermediary components for manufactured products during a particular period of time. If this causes a current account deficit, it may be only a temporary phenomenon, and the new capital investment will enlarge a country's output potential, both for the domestic and foreign markets.
- A second aspect to consider is the balance on the financial account. A surplus on the latter account may serve as a financing vehicle for a current account deficit. It also stands to reason that foreigners who invest in a particular country would require some form of dividend repayment over time. To the extent that dividends are repatriated abroad, financial account inflows will tend to produce a measure of current account outflows and vice versa.
- A third aspect relates to the period over which a current account deficit persists. Only if a deficit grows consistently larger over a period of several years, will it induce problems for balance of payments stability.
- Fourthly, it is useful to analyse a current account deficit in terms of its ratio to GDP. Only if this ratio moves to levels of between 5% and 10%, with clear indications that it is likely to persist at this level, can it be regarded as a potential threat to balance of payments stability.

Basis point

Unit of measurement typically used in the expression of interest rate differentials (including bond yields).

A basis point is one-hundredth of a percentage point. A change in a government bond yield from 8% to 8.2% translates into an increase of 20 basis points. If the Reserve Bank lowers the repo rate from 5.75 to 5.25 it would represent a decrease of 50 basis points.

Bond

A debt instrument issued by a borrower to a lender.

The former usually comprises national, regional or local governments and their agencies (such as state-owned enterprises); utilities (such as power stations); companies and financial institutions.

Lenders (owners of the bonds) are usually financial institutions (such as long-term insurers). Most bonds carry a fixed interest rate, but the effective yield on such securities may change frequently in response to market demand & supply. Bonds can take many forms and may be marketable or non-marketable; short- or long-term; secured or unsecured; redeemable or irredeemable.

A fairly recent development has been the issuing of Euro-bonds, which may be defined as securities underwritten by a syndicate comprising the governments of countries belonging to an economic union and sharing a common currency, but are traded on global capital markets.

In certain instances, bond investors are also offered the opportunity to spread the investment risk of sovereign bonds through index-based securities managed by financial institutions. One example is the Citigroup World Government Bond Index, which represents a basket of government bonds from 23 different countries (including South Africa), weighted according to key economic indicators.

When a government requires debt financing for an infrastructure project or to fund a budget deficit, it usually issues bonds. For a company that needs to raise funds for the expansion of its business, bonds offer an alternative to loans from banks. The issuer of a bond states the face value of the loan amount (also termed par value) and the interest rate that will be paid (coupon rate), as well as the maturity date (when the loaned funds have to be repaid).

See also: *Bond yield; capital market*

Bond yield

The rate of annual return on an investment in a bond, usually expressed as a percentage of its price.

Three types of bond yields exist: nominal (or coupon); current; and yield to maturity. An inverse relationship exists between interest rates and bond prices. The logic behind this phenomenon may be illustrated as follows: A bond with a par value of R1,000 (paid at maturity in one year's time) has a coupon (or nominal) rate of 8%, resulting in a return (yield) of R80 per annum.

Now if the capital market interest rate were to increase to 10%, newly issued bonds would yield a return of R100. There would be no demand for the 8% coupon bond unless its price drops to R800, which would also provide and effective yield of 10%.

The relevant formula for determining the new price of the initial bond is:

- (Par value of bond x coupon rate)/market rate; in this case (R1000 x .08)/.1 = R800

See also: *Bond*

BRICS

BRICS is the acronym for an association of five emerging markets that are regarded as influential in their respective regions, namely Brazil, Russia, India, China and South Africa. Prior to 2010, when South Africa became a member of this grouping, it was known as BRIC.

Apart from regional influence, BRICS is regarded as a potentially significant grouping of countries due to a combined population of more than 3 billion (42% of the world total). The global share of the combined GDP of the five countries is, however, considerably smaller, namely 20% (approximately $16 trillion).

South Africa is the minnow in the group, with a share of only 2% of the combined GDP of BRICS. All of the original BRIC countries are in the top-10 globally for both the size of the economy and the population and all five are members of the G-20.

The BRICS grouping has received both praise and criticism from political & economic commentators, mainly due to its perceived anti-Western stance and desire to establish an alternative set of international finance and development institutions to the World Bank group.

The latter has been formalized via the establishment of a so-called BRICS Development Bank, but it remains to be seen whether this institution will ever become instrumental. The start-up capital of $100 billion will not be forthcoming while Russia is in recession. Furthermore, Brazil is also on the verge of a recession, whilst China is coming to grips with a structurally lower economic growth rate – a process that could take several years.

South Africa is expected to contribute an equal share of this capital, which is ten times higher than its GDP share. At an exchange rate of R13.50 to the US dollar, this implies a payment of R270 billion, roughly a quarter of the total annual national budget. There can be no doubt that South Africa will not be able to afford its BRICS Bank membership well into the future.

A cursory analysis of recent statements by the heads of state of the Brics countries reveals a common denominator in the form of the group's intention to establish a collective forum to act as a counter for the strong economic and political influence of Europe & North America.

The inability of BRICS to implement any tangible development initiatives over the past five years or to attract interest from other emerging markets in order to expand the group is a clear indication of its passiveness, apart from the occasional anti-US sentiment emanating from especially three members – South Africa, Russia and China.

Business cycle

The fluctuations that an economy experiences over time as a result of changing trends in GDP growth and other key indicators are known as business cycles. Each cycle consist of an expansion and contraction of economic activity, with the upper and bottom turning points referred to as a peak and a trough, respectively.

Composite business cycle indicators are calculated to reflect the movement of and the turning-points in the overall business cycle of the economy. They represent a large spectrum of economic activities and are divided into three groups, namely those leading the business cycle, those coinciding with the business cycle and those which lag behind the cycle.

Economic policy makers in most countries use the trends depicted by these indices as guidelines for determining stabilisation policy. For example, if the leading indicator starts to increase at a relatively high rate, it may be a sign that excess demand could develop over the medium term which may prompt the central bank to raise money market interest rates.

Due to changes over time in the behaviour patterns and soundness of causality of some data series included in the various composite business cycle indicators, it is necessary to review them periodically.

The main criteria used in the evaluation of indicators for possible inclusion in the indices are:

- The economic significance of the activity or process represented by the data
- The statistical adequacy of data
- Historical conformity and relationship with the business cycle as to the timing of changes and the smoothness of the time series
- Timely availability of supporting data

The tables provide the most recent selection of indicators that are used by the SARB to calculate the three different composite indices.

Leading business cycle indicators
Overtime hours as percentage of ordinary hours worked in manufacturing
Opinion survey of business confidence: manufacturing, construction and trade
Physical volume of gold ore milled
Physical volume of mining production, excluding gold
Opinion survey of volume of orders in manufacturing
Number of new motor cars sold
International business cycle indicator: industrial production
Value of merchandise exports, excluding gold and agriculture
Number of residential building plans passed
Net number of new companies registered
Number of real estate transactions
Opinion survey of stocks in relation to demand: manufacturing and trade
Prices of all classes of shares
London gold price in rand
Company profits, after tax
Commodity prices: percentage change over twelve months
Ratio of output prices to unit labour costs in manufacturing
Real M1 money supply: percentage change over twelve months
Net gold and other foreign reserves
Consumer credit at constant prices
Tender Treasury bill discount rate

Coincident business cycle indicators
Employment in manufacturing, mining and the construction sector
Gross domestic product at constant prices, excluding agriculture
Physical volume of manufacturing production: durable goods
Physical volume of manufacturing production: non-durable goods
Utilisation of production capacity in manufacturing
Value of wholesale, retail and motorcar sales at constant prices
Value of imports at constant prices, excluding mineral products

Lagging business cycle indicators
Employment in non-agricultural sectors
Total number of hours worked in the construction sector
Physical volume of mining production of building materials
Value of unfilled orders as percentage of sales in manufacturing
Value of fixed investment in machinery and equipment
Value of non-residential buildings completed
Value of industrial and commercial inventories at constant prices
Labour costs per unit of the physical volume of manufacturing production

Capital

To the economist, capital is defined as:

> *The physical assets that are utilised to produce other goods and services.*

Examples are buildings, machinery, roads and transport equipment. Capital is a broad term and is more commonly associated with its financial dimension, which often forms an identical counterpart to the value of the productive capital asset.

To the accountant, capital as defined above relates to the financing requirements involved with the purchase or construction of the asset. It may, for example, be appropriate for a business concern to finance the establishment of a new factory by a combination of three sources of financial capital: retained profits; the issuing of new shares; and external loans.

From a macroeconomic perspective, capital represents a stock concept. Its economic classification is either done in terms of the capital formation in each of the key economic sectors or in terms of the type of fixed asset that is being created (as per the accompanying tables).

Capital formation by type of asset - 2014	
	R bn
Machinery & other equipment	247.7
Construction works	230.8
Transport equipment	86.7
Non-residential buildings	62.5
Residential buildings	55.5
R&D, software & other	38.0
IT equipment	37.4
Transfer costs	10.6
Total	**769.2**

Source: SARB

A society's capital stock consists of goods that have already been produced and are utilised for the purposes of increasing the supply of goods and services in the economy. Capital is one of the four groups of production factors encountered in the supply-side equation.

A light delivery vehicle used by its owner for loading camping equipment for a recreational holiday would be classified as private consumption expenditure in the national accounts. If the same vehicle is used exclusively by a builder for transporting equipment and materials to a construction site, it would be classified as capital.

A useful distinction can be made between capital owned by private firms, which forms part of a country's production structure, and capital owned by public sector agencies, such as power stations and water reservoirs, which are part of infrastructure.

South Africa is in many respects part of the developing world and, as such, does not possess the economies of scale to manufacture products such as tower cranes and sophisticated process computers. As a result, new manufacturing equipment and its associated technologies usually need to be imported from large post-industrial countries, especially the US, Japan, the European Union and China.

See also: *Infrastructure*

CFA franc

Currency used in fourteen African countries, guaranteed by the French treasury and with a fixed exchange rate to the euro

Theoretically, two CFA franc currencies exist, namely the West African CFA franc and the Central African CFA franc. In practice, however, they are interchangeable and both are valued at one euro for 656 CFA francs (July 2015).

Since the independence of the former French colonies in Africa, CFA is taken to mean *Communauté Financière Africaine* (African Financial Community). In addition to these twelve countries, one former Portuguese colony (Guinea-Bissau) and one former Spanish colony (Equatorial Guinea) use the CFA franc.

The eight West African countries using the CFA franc are: Benin; Burkina Faso; Guinea-Bissau; Ivory Coast; Mali; Niger; Senegal; and Togo.

The six countries in Central Africa are: Cameroon; Central African Republic; Chad; Republic of the Congo; Equatorial Guinea; and Gabon.

Commonwealth of Independent States (CIS)

The Commonwealth of Independent States (CIS) was formed in 1991 by three countries, namely Belarus, Russia and Ukraine. Seven other countries have subsequently joined, but Ukraine has relinquished its membership, although it is still recognised as a so-called "participating state".

The CIS is a regional organisation currently represented by nine former members of the Union of Socialist Soviet Republics (USSR), namely Armenia; Azerbaijan; Belarus; Kazakhstan; Kyrgyzstan; Moldova; Russia; Tajikistan; and Uzbekistan.

In addition, Turkmenistan is afforded the status of "associate state". Georgia was a member of the CIS from 1994 to 2009. The inability of the CIS to retain all the member states of the former USSR in this successor entity is mainly related to military intervention by Russia in parts of Moldova, Georgia and Ukraine, as well as other disagreements with Russia.

In pursuing the specific objective of economic integration in the former USSR, the Eurasian Economic Community (EEC) was formed in 2000, subsequently replaced by the Eurasian Economic Union (EEU). Only five of the CIS members are currently members of the EEU, namely Belarus; Kazakhstan; Kyrgyzstan; Russia; Tajikistan.

COMESA

Abbreviation for the Common Market for Eastern & Southern Africa. Between 1981 and 1994, this common market existed as a preferential trade area (PTA).

In terms of its treaty, COMESA was established as:

> *"an organisation of free independent sovereign states which have agreed to co-operate in developing their natural and human resources for the good of all their people"*

Due to the region's economic history and background, the main focus of COMESA is on the formation of a large economic and trading unit that is capable of overcoming some of the barriers that are faced by individual states. It nevertheless has wide-ranging objectives which include the promotion of peace and security in the region.

In summary, COMESA's current strategy is stated as "economic prosperity through regional integration". With its 19 member states; a combined population of over 470 million; total output of $668 billion; annual imports of around US$212 billion; and exports of US$163 billion, the COMESA region represents a major market place for both domestic and foreign investors. The region covers an impressive area 12 million square km.

Unfortunately, however, the region is characterised by a stark divergence in the socio-economic and political fortunes of its member states, rendering much of its efforts to stimulate faster development and growth null and void.

Several member states of COMESA have been affected by civil war, cross-border armed conflicts, high levels of insecurity and the forced displacement of people within and across borders. According to the 2014 Fragile States Index, three of the eleven most

fragile states and ten of the 34 most fragile states are COMESA members. Only two of the member states are regarded as relatively stable, namely Mauritius and Seychelles.

COMESA member states	
Burundi *	Malawi
Comoros	Mauritius
Congo (Dem. Rep.) **	Rwanda *
Djibouti	Seychelles
Egypt *	Sudan **
Eritrea *	Swaziland
Ethiopia *	Uganda *
Kenya *	Zambia
Libya	Zimbabwe **
Madagascar	

** Denotes countries on alert in the Fragile States Index*
*** Countries on high & very high alert in the Fragile States Index*

Sources: COMESA website; The Fund for Peace

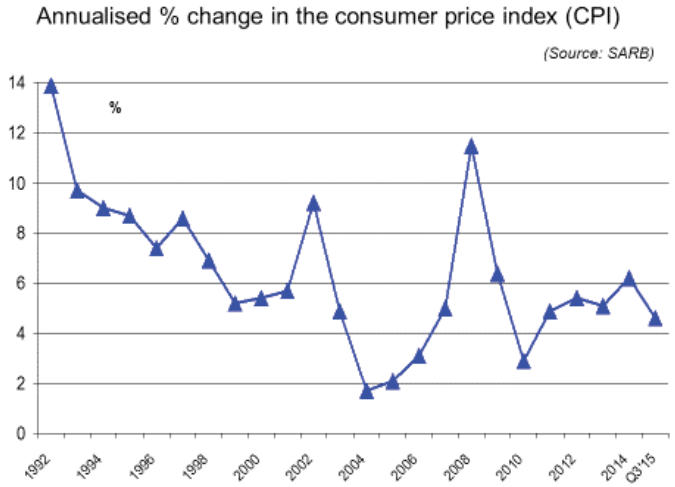
Economic divergence is equally pronounced, with the seven smallest economies collectively only accounting for 2.8% of COMESA's GDP and the largest economy, Egypt, representing 43% of the region's GDP.

Consumer price index (CPI)

An index consisting of price data for a representative "basket" of goods and services consumed by households

The latter is determined by regular surveys of household expenditure, conducted by Statistics South Africa (Stats SA). The survey data provides the basis for the range and composition (in terms of a fixed weighting) of goods and services.

The change in the CPI (expressed as a percentage) is the most commonly used indicator of inflation in a country and is therefore widely used to adjust data for price level changes (into "real" figures, also referred to as constant price data).



Due to the relatively large weighting of the cost of housing and its strong correlation with mortgage lending rates, the SA Reserve Bank also utilised a variant of the CPI for purposes of inflation targeting, namely CPIX, which excluded the interest costs of mortgage loans. The CPIX was discontinued in 2009 and the CPI for all urban areas was announced as a headline inflation measure and also used as an inflation target measure.

The South African Reserve Bank has been pursuing a policy of inflation targeting for more than two decades, with a target range for the CPI of between 3% and 6% (as opposed to a more rigid approach of a target point).

As is the case in most countries, the CPI represents an indispensable economic indicator, fulfilling a number of important functions:

i. The fundamental measure of the rate of inflation in the economy
ii. A basis for determining price escalations, especially rentals, wages & salaries
iii. A basis for macroeconomic policy, especially monetary policy
iv. It acts as a deflator of consumer expenditure in the national accounts
v. A universally recognised measure of changes in the cost of living of households

Stats SA ensures alignment with international best practice in CPI formulation by following the methodology guidelines of the International Labour Organisation (ILO) - the authoritative global body on the methodology for price statistics.

The ILO is supported by other organisations, including the United Nations Statistics Division (UNSD), International Monetary Fund (IMF) and the World Bank. The ILO manual for CPIs is the main reference for statistical offices for CPI concepts and definitions and provides the theory and conceptual framework of the CPI, whilst also giving methodological and practical guidelines for the compilation of CPIs.

See also: *Inflation; PPI*

Corruption

Dishonest or fraudulent conduct by people in power, typically involving bribery and nepotism

Business Dictionary.com defines corruption in more detail, namely as wrongdoing on the part of an authority or powerful party through that are illegitimate, immoral, or incompatible with ethical standards.

The destructive nature of endemic levels of corruption in society is encapsulated in the origin of the noun, which stems from two Latin words, namely com, meaning "together" and *rumpere*, meaning "to break".

Although the phenomenon of corruption is inherently complex, especially with regard to the direction of causation, it has been proven that a positive correlation exists between increased levels of corruption and uncertainty amongst businesses. This, in turn, invariably leads to lower levels of investment, by both domestic and foreign firms.

Interestingly enough, the well-publicised increase in government graft in South Africa over the past five years (at all levels of public sector activity) has been accompanied by a decline in the ratio of inward foreign direct investment as a percentage of GDP.

Credit rating agency

A credit rating agency (CRA) may be defined as:

> *a research-orientated firm that publishes opinions about the quality of debt instruments issued by corporations, financial institutions and governments (all three tiers, namely national, regional/state and local)*

These debt instruments include government bonds, corporate bonds, preferential equities, mortgage-backed securities and other debt obligations of a collateral nature. The opinions on the quality of the relevant debt instrument come in the form of letter grades, sometimes with numerical or positive/negative sub-categories, e.g. AAA; AA; BBB; BB1; C+; etc.

The first CRA was established more than a century ago by John Moody (mostly concerning railroad bonds). Standard & Poor's origin can be traced back to 1916 and Fitch was formed in 1924. These firms sold their bond ratings to bond investors in voluminous manuals.

Credit rating is a highly concentrated industry, with the three largest agencies controlling approximately 95% of the CRA business.

The so-called "big three" global CRAs, namely Moody's, Standard and Poor's (S&P) and Fitch Ratings, have come under scrutiny in the wake of the global financial crisis. Vast amounts of securities that were given high ratings were downgraded to junk during the run-up to the global recession of 2008/09.

CRAs have been accused of exacerbating the financial crisis and defrauding investors by offering overly favourable evaluations of financial institutions that were *de facto* bankrupt. They were also apparently blissfully unaware of the nature and investment implications of extremely risky mortgage-related securities.

In Europe, these three CRAs were exposed to further controversy over their apparent overreaction to sovereign debt ratings during the recession. Although there was some merit in the decision to relegate the public debt of countries like Greece, Portugal, and Ireland to so-called "junk" status, the agencies also downgraded the creditworthiness of major euro-zone economies, including France and Austria. EU officials have argued that these actions worsened the euro-zone's sovereign debt crisis.

Since 2008, CRAs have faced intense legal scrutiny of their business practices and S&P was obligated to pay a huge settlement in 2015 with state and federal prosecutors in the US ($1.37 billion).

It is no surprise, therefore, that both the United States and Europe have taken steps to regulate the three main agencies to ensure more transparency and competitiveness, in an attempt to hold agencies more accountable and improve protection to investors.

The high level of concentration encountered in the CRA industry was cemented in 1975, when the US Securities and Exchange Commission (SEC) issued new rules that designated Moody's, S&P, and Fitch as the only three Nationally Recognised Statistical Rating Organisations (NRSROs).

Over the next 25 years, only four additional firms were recognised as NRSROs, but mergers reduced the number of to the original three by the end of 2000. NRSRO designation had become a significant barrier to entry into the bond-rating business. The eventual lack of credibility of CRAs during the financial crisis was exacerbated by the fact that the SEC did not establish objective criteria for a NRSRO designation.

A further cause for concern over the reliability of CRA publications arose during the early 1970s when the "investor pays" model established by John Moody in 1909 agencies was converted to an "issuer pays" model. This change immediately created potential conflicts of interest.

The acid test for the credibility of bond ratings by CRAs lies in the performance of the relevant bond yield, especially following a change to the ratings. In theory, when a CRA lowers the rating or outlook for a particular country's bonds, demand should drop and supply increase, leading to declining prices of the bonds.

Due to the inverse correlation that exists between bond yields and bond prices (see *bond yield*), the capital market interest rates in the relevant country should increase. During 2014 and early 2015, South Africa provided a classic example of unjustified opinions by CRAs when ratings downgrades were, in fact, followed by declining long-term bond yields.

Deflation

In economics, deflation can have two meanings:

1. *Removing the effect of price changes by converting a nominal value to a real (inflation-adjusted) value*
2. *A situation where the overall price level in an economy decreases, so that the inflation rate becomes negative (the opposite of inflation)*

Statistical tool

The first definition simply refers to a statistical device whereby the effects of price changes are abstracted in order to gauge the movements in quantity variables (as opposed to nominal value variables).

Most often, deflation is used to convert time-series data into figures that are considerably more useful for purposes of economic analysis. A simple example is as follows: The nominal value of mining production in 2014 wasR268.6 billion, representing an increase of 0.6% over the figure for 2013. Although this is only a marginal increase it still reflects positive growth (in nominal terms).

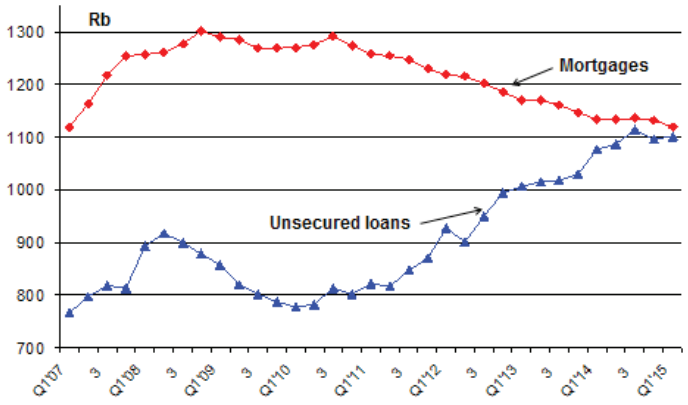
When the effect of price increases within the mining sector is taken into account, however, a negative rate of output growth of 1.6% is recorded between 2013 and 2014.

The formula for deflating time series data is as follows:

> [Nominal value (year 2) divided by the price index (year 2)] multiplied by the price index in the base year

An example of the variance that can exist between nominal and inflation-adjusted (deflated) variables and its relevance for economic policy formulation can be found in the total outstanding value of mortgage loans in South Africa over the past decade,

Mortgage advances and unsecured loans
at constant 2014 prices *(Sources: SARB; own calculations)*



which has still not recovered from the effects of the recession (in real terms).

The upshot of the trends illustrated by the figure with regard to the composition of credit extension is that the economy would still have been in recession in the absence of relatively strong growth in unsecured lending by the banking sector.

A declining price level

The second meaning of deflation is not a trivial matter, as a reduction in the general level of prices is usually associated with a host of negative economic phenomena, including the following:

- Lower levels of economic activity
- Aggregate supply exceeding aggregate demand
- A weakening of a country's terms of trade
- Lower rates of increases for wages and input prices
- A declining trend for national income
- Higher unemployment
- Currency strengthening (eventually)

It should be noted that a stronger currency is not always a negative economic concept, but in recessionary conditions, such as is implied by deflation, it is not desirable, as it discourages exports and also inbound tourism.

One positive aspect is the fact that deflation actually improves international competitiveness in the short term (before currency strengthening kicks in).

Deflation is associated with negative economic growth and can be caused by strict monetary policy (via high interest rates) or fiscal policy (via high rates of taxation or lower levels of government spending).

Rational expectations of consumers and investors can fuel the trend towards a declining general price level by postponing decisions to purchase durable goods or to expand productive capacity. This occurs when people believe that prices will be lower at some point in future, hence ⍰bargains⍰ can be found by being patient. The expansion of economic activity is therefore delayed.

Fortunately, deflationary economic circumstances have proved to be a rarity over the past 60 years, with the relatively lengthy period of sub-zero or very low real GDP growth in Japan between 1992 and 2009 a notable exception (the average real GDP growth rate over this period was 0.6%).

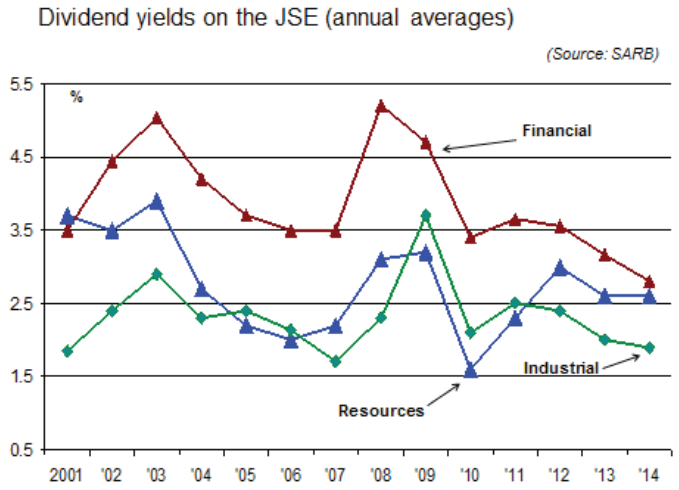
See also: *Inflation*

Dividend yield

Usually a stock exchange concept, defined as:

> *The cash rate of return earned by an investor in equities*

It is calculated by dividing the dividend received by the current market price of the shares and expressed as a percentage.



The accompanying figure illustrates the trends since 2001 in average annual dividend yields of three key sectors on the Johannesburg Stock Exchange (JSE). A correlation exists between these trends and the fortunes of the economy as a whole over this period, with the effects of the recession of 2008/09 and lethargic GDP growth during the post-recovery era clearly visible.

See also: *Equities*

Economies of scale

> *The gains derived within a plant or industry from lower production costs per unit as the scale of production is expanded*

In such a situation, total production costs increase less than proportionally with output. In practice, a large variety of methods can be employed to secure economies of scale, including:

i. Labour specialisation

ii. Fuller utilisation of machinery and equipment (e.g. through additional working shifts)

iii. Greater utilisation of land

iv. Lower costs of capital as a result of more favourable interest rate charges (smaller firms usually pay a premium on credit facilities)

v. Advertising and marketing expenses per unit of production decline with marginal increases in output

vi. Research and development expenses per unit of output decline fairly dramatically with increased production, e.g. the design of a new vehicle

vii. A variety of other so-called ?overhead costs? also exhibit declining trends per unit of production

viii. In the container industry, output capacity depends on volume, whilst cost often depends on area. This volume-area relationship constitutes one of the key reasons for the global trend towards bulk-cargo containers, especially in shipping.

ix. Significant and on-going technological advances have made it possible to also lower the unit costs of production via higher quality inputs and enhanced processing techniques. These result in less work stoppages and wastage.

Elasticity of demand

The response of demand for a product or service due to a change in the price of the commodity, usually expressed as a percentage, but ultimately applied to the effect on revenue

A decline in the price of a particular product can lead to one of the following three scenarios for total revenue:

i. If the increase in demand is proportional, revenue is not affected (elasticity is unity)

ii. If demand increases more than proportionally, it is relatively elastic, which means that total revenue will increase

iii. If demand increases less than proportionally, it is relatively inelastic and revenue will decrease

Entrepreneurship

It is something of a mystery that entrepreneurs are so regularly ignored in economics textbooks. Many authoritative macro-economic textbooks do not include a single reference to the term entrepreneur in their subject index sections.

Scrutiny of publications in the field of development economics does, however, reveal recognition of the crucial role played by entrepreneurs within the macro-economic equation.

It is especially Schumpeter and more recently Herrick & Kindleberger that have drawn attention to the function of the entrepreneur in creating economic progress and change.

According to Schumpeter, the entrepreneur's continual innovation is the source of growth and change that characterise modern free enterprise societies.

Drawing on the above contributions and research conducted by the author, it is useful to construct the following economic definition of an entrepreneur:

A person who is responsible for initiating, developing and controlling a business organisation; who combines the other factors of production; supplies products and services to the market; and bears the brunt of risk and uncertainty.

Although this definition consists of a number of identifiable elements, the fundamental economic characteristic of entrepreneurship is the fact that it constitutes a separate production factor, without which the other three groups of production factors remain mostly latent and, as an inference, virtually meaningless in economic terms.

Without the entrepreneur, no output would be possible outside the realms of a subsistence economy or a centrally planned economic system.

Given the dynamics of the production function, it stands to reason that, with adequate reserves of the other three production factors, any qualitative or quantitative improvement in entrepreneurship will lead to an increase in a country's gross domestic product (GDP).

Through the existence of an economic multiplier effect, which operates via backward and forward input/output linkages, employment levels are increased directly and indirectly as a result of entrepreneurship enhancement.

Equities

Equities are more commonly known as shares in the issued financial capital of a company, usually traded on a stock exchange. The latter is a key participant in a country's capital market and serves as an invaluable source of financial capital for companies that require financing, usually for purposes of business expansion.

Owners of equities become members of the relevant company and are entitled to vote at annual meetings and whenever resolutions are required to approve extraordinary transactions affecting shareholder value (such as mergers & acquisitions).

Although a relatively high element of risk is associated with equity investment (as a rule, ordinary shares are not secured), such investments are popular amongst global fund managers, as significant opportunities may exist for capital gains. In addition to this incentive, shareholders also often receive dividends from profits.

The return on an investment in equities emanating from dividends paid out of profits is called the dividend yield, which is calculated by dividing the dividend by the existing market price of the share.

The dividend yield is usually lower than the earnings yield, which is the percentage of net profits in relation to the current market price of the shares.

The reason is that many companies decide to retain some portion of profits for purposes of business expansion. Significant reserves of retained profits are often referred to as a ‘war chest’, implying that the relevant company is eager to acquire more productive assets, often through buy-outs of smaller competitors or via an extension of its supply chain.

See also: *Johannesburg Stock Exchange*

European Union (EU)

According to the EU's official website, it represents a unique economic and political partnership between 28 European countries that together cover much of the continent.

The first steps to establish an economic union in Europe occurred in the aftermath of the Second World War with the aim to foster economic cooperation. The idea was that countries that expand their trading relations and economic cooperation with one another become economically interdependent and so more likely to avoid conflict.

The result was the European Economic Community (EEC), created in 1958, and initially designed to increase economic cooperation between six countries, namely Belgium, Germany, France, Italy, Luxembourg and the Netherlands.

Since then, 22 more countries have joined to form a large single market, with 19 of the member states of the EU also having adopted a common currency (the euro).

The table lists the member states of the EU, as well as the date of entry

The single market is the EU's main economic advantage, enabling most goods, services, money and people to move freely. The EU is based on the rule of law and its activities are founded on treaties, voluntarily and democratically agreed upon by all member countries.

One of the EU's main goals is to promote its own core values both internally and around the world. These include human dignity, freedom, democracy, equality, the rule of law and respect for human rights.

Member states of the European Union

Country	Date	Country	Date
Austria	1995	Italy	1958
Belgium	1958	Latvia	2004
Bulgaria	2007	Lithuania	2004
Croatia	2013	Luxembourg	1958
Cyprus	2004	Malta	2004
Czech Republic	2004	Netherlands	1958
Denmark	1973	Poland	2004
Estonia	2004	Portugal	1986
Finland	1995	Romania	2007
France	1958	Slovakia	2004
Germany	1958	Slovenia	2004
Greece	1981	Spain	1986
Hungary	2004	Sweden	1995
Ireland	1973	United Kingdom	1973

Source: European Union

See also: *Eurozone*

Eurozone

A monetary union consisting of 19 member states of the European Union that have adopted the euro as their official currency

The table lists the member states of the Eurozone, as well as other European countries that use the euro as legal tender and the European Union member states that have not yet relinquished their national currencies.

The birth of the euro in the format of a hard currency has been hailed as an event without parallel in the economic history of the world. After a preliminary three-year period of operating as a recognised world currency for non-cash transactions, euro banknotes and coins were put into circulation for the first time on 1 January 2002.

It will remain a glowing tribute to the euro area that its common currency was, *ad initio,* essentially a peace initiative. The euro became legal tender in the Eurozone exactly 50 years after six European countries established a post-war community aimed at avoiding the potential for armed conflict. The European Coal and Steel Community (ECSC) entered into force in 1952.

Eurozone members	
Austria	Latvia
Belgium	Lithuania
Cyprus	Luxembourg
Estonia	Malta
Finland	Netherlands
France	Portugal
Germany	Slovakia
Greece	Slovenia
Ireland	Spain
Italy	

Countries that use the euro but issue their own coins	
Andorra	San Marino
Monaco	Vatican City

Countries that have adopted the euro unilaterally	
Kosovo	Montenegro

European Union member states that do not use the euro	
Bulgaria	Poland
Croatia	Romania
Czech Republic	Sweden
Denmark	United Kingdom
Hungary	

Source: European Union

The aim of the ECSC was to pool French and German coal and steel resources in such a way that war between the two countries would thereafter be virtually impossible.

Various subsequent institutional structures were put into place in Western Europe's quest for peace and the promotion of economic and social progress, culminating in twelve countries sacrificing a piece of their sovereignty to become the world's largest region with a uniform currency.

Also referred to as the euro area, it has attracted much attention since the financial crisis of 2007/08 and subsequent recession of 2008/09, mainly due to the fiscal debt problems of Greece, Portugal, Spain and Ireland.

See also: *European Union*

Exchange rate

The rate (price) at which a unit of one country's currency is exchanged for another currency or an international reserve asset

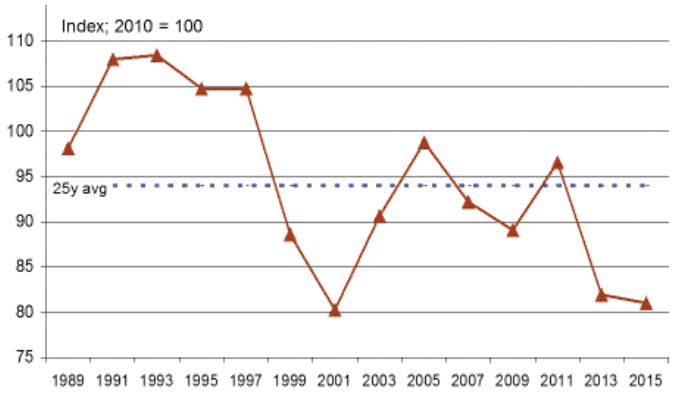
Official reserves are held by most central banks around the world, mostly composed of gold, the US dollar and special drawing rights (SDRs) issued by the International Monetary Fund (IMF).

Terminology

The market where currencies are exchanged is known as the foreign exchange market, usually called forex market for short. The exchange rate quoted on a daily basis by commercial banks and published in the financial media are nominal rates.

For purposes of time-series analysis, a *real exchange rate is* often used, which takes account of price differentials between two countries.

Real effective exchange rate of the rand (trade-weighted basket of foreign currencies per rand) *(Source: SARB)*



Central banks often calculate and publish a so-called real effective exchange rate (REER), which reflects the inflation-adjusted value of the particular country's currency against a trade-weighted basket of currencies of key trading partners.

The figure illustrates the REER of the rand over the past 17 years, as well as the average over the period, which is an indication of a marginally undervalued currency, in general.

A further distinction needs to be made between the spot market and the futures market for trading currencies. The former is based on the spot exchange rate, for immediate transfer of the traded currency, whilst the latter is based on a forward rate, for transfer at a predetermined date in the future.

Participants

The demand and supply of foreign exchange is invariably linked to individuals or organisations that require foreign currency for certain transactions. Four different levels of participants can be distinguished:

- *Primary level*: Importers, exporters, tourists, investors and speculators
- *Secondary level*: Commercial banks and specialised financial institutions, which act as clearing banks between users and earners of foreign exchange

- *Broker level:* Brokers who assist banks in equalising inflows and outflows of foreign exchange that is in excess of their foreign exchange reserves
- *Policy level*: Central banks, who act as lenders of last resort in the event of imbalances between inflows and outflows of foreign exchange

Functions

Four different functions are fulfilled by the markets for international exchange, namely:

1. *International clearing services*
   Sellers of a particular currency are not involved in a direct transaction with the purchasers of that currency. Banks are in a position to act as an intermediary between the supply of and demand for foreign exchange. In the process, banks perform an international clearing function in the same technical manner as interbank clearing takes place domestically.

1. *Provision of credit*
   Exporters often allow importers up to 120 days in which to pay for consignments of goods. This usually occurs against the collateral of a bank draft issued by the importer, which, in turn, may be discounted at a certain cost at a commercial bank.

1. *Hedging facilities*
   Exchange rates change on a daily basis and some currencies, even those of high-income countries, can be volatile over the short term. This behaviour of exchange rates is difficult to predict and may result in either depreciation or appreciation. Some firms and individuals embrace the risk involved in holding foreign currency assets, due to the chance of realising a capital gain. Others are risk-averse and would prefer to retain all assets in their domestic currency alone. These two different attitudes have resulted in the emergence of speculators and hedgers on the foreign exchange markets. These markets provide a useful service to hedgers by allowing them to avoid net asset or net liability positions in the foreign currencies that they conduct business in.

1. *Speculative facilities*
   Speculators represent the other side of the hedging coin, and speculation can be defined as either taking a net asset ("long") position or a net liability ("short") position in a particular foreign currency. Speculators are to some extent gamblers who invest in a currency that is anticipated to increase in value against other currencies. Speculators are often characterised as greedy people who add an element of subversion to the international monetary system. In the case of the South East-Asian financial crisis of 1998, the government of Malaysia openly accused currency speculators for the significant depreciation of its currency.

Factors that influence an exchange rate

Exchange rate determination is not merely a clinical matter of supply and demand in a perfectly competitive market. Leads and lags in the process of international settlements, investor sentiments, speculators, the co-existence of relatively small, open economies with huge industrialised nations, all contribute to the volatility that often characterises foreign exchange markets.

The complexity of international economies is illustrated by the following list of determinants of the value of a currency:

- *Transactions demand*

First and foremost, a currency's value is determined by the supply of and demand for domestic and foreign currencies emanating from imports and exports of goods and services, including transactions relating to services (such as insurance) and income transfers (such as dividends). It also includes activities associated with tourism.

- *Investor demand*
  In a globalising world economy, most international asset managers hold portfolios that are diversified also in terms of different countries. The group of 25 emerging markets (as defined by the Economist Intelligence Unit) has become an attractive destination for such asset portfolio diversification, particularly as a result of rates of return that are often superior to those of high-income countries. The trend towards universal exchange control relaxation has facilitated this process and also allows residents in developing countries to invest abroad, thereby generating a subsequent supply of foreign exchange within the domestic economy when dividends are repatriated.
- *Speculative demand*
  Relatively small, open economies have at times fallen prey to the actions of speculators who add fuel to an anticipated downward adjustment of such currencies. Over the long term, however, it is impossible for a speculator or even a group of speculators to hold a country's currency at ransom.
- *Purchasing power parity*
  Goods that are substitutes for each other should have similar price movements in all countries when measured in the same currency. This hypothesis of relating price trends to exchange rates is referred to as purchasing power parity. The fundamental logic behind this concept is that an exchange rate that does not reflect significant price differentials will lend to profit taking due to the price gap. In the process, arbitrage will ensure that prices and exchange rates eventually reflect the same values for goods in different countries (exclusive of tariffs and subsidies).
- *An increase in the money supply*
  Theoretically, an increase in a country's money supply while the rest of the world's money supply remains constant will cause such a country's currency to depreciate, mainly as a result of domestic inflationary pressures.
- *Primary export growth*
  Strong economic growth induced by the export of primary products (e.g. gold or oil) will increase a country's real income and also increase the transaction demand for a country's currency, resulting in an appreciation. Subsequent increases in imports can, however, reverse this trend.
- *Socio-political stability*
  Disinvestment is commonly associated with expectations surrounding socio-political instability. In such a scenario, capital flight leads to an over-supply of the domestic currency.
- I*nterest rate differentials*
  Higher interest rates theoretically attract international money market investments, causing a country's currency to strengthen and also allowing the investor to realize a capital gain. The resulting increase in the money supply of the high interest rate country will eventually place downward pressure on interest rates and will tend to reverse the process of currency appreciation.
- *Expectations regarding inflation*
  In an inflationary environment, the costs of production increase relative to other countries. The only way to prevent domestic manufacturers from making losses on export orders is for a currency to depreciate, thereby inducing a next round of inflationary pressures through higher import costs. Once the expectations surrounding continued inflation have become entrenched, it is difficult to break this inflation/currency depreciation spiral.
- *Leads and lags*
  The tendency for importers and exporters to utilise credit and hedging facilities results in differences between the real transaction of exports and imports and the flow of financing arrangements relating to these transactions. These practices can cause temporary shocks in the pattern of foreign exchange supply and demand.

See also: *Balance of payments*

Factor productivity

In economic terminology, factor productivity (usually referred to as total factor productivity – TFP) is calculated as the increase in output that is not accounted for by changes in the volume of inputs of the two traditional variable production factors, namely capital and labour. For example, if the number of person-days worked and the amount of physical capital stock both increase by 3% and output rises by 5%, TFP has increased by 2%.

As is often the case, economists are divided on exactly what is measured by TFP. One school of thought emphasises the so-called positive externalities that ultimately flows from significant new innovations and inventions, sometimes referred to as a general purpose technology (GPT), whilst others state that TFP simply measures the rate of technological change.

On a practical level, however, consensus does seem to exist on the main driving forces behind increased output beyond the inputs of the classical production function. This means that the production function is supplemented with a so-called ‘shift or efficiency parameter’ (attributed to Hicks) which measures the shift in the production function at given levels of labour and capital, written as follows (in simple Cobb-Douglas form):

$$Y = a\,(C + L)$$

Where:	Y =	Aggregate output (or GDP)
	a =	Shift parameter (e.g. improved technical efficiency)
	C =	capital stock (e.g. machinery)
	L =	Labour

In this equation, “a” can be equated to the so-called Solow residual—the residual growth rate of output not explained by the growth in inputs, essentially TFP.

Scrutiny of scholarly research on the topic of productivity and economic growth theory over the past two decades reveals regular reference to TFP as effectively representing a residual. In the unflattering words of Abramovitz (1956), it may be regarded as “a measure of our ignorance”.

Fortunately, it is quite clear what causes one country to possess a higher rate of TFP than others, which can be summarised as follows:

1. New technological inventions within a specific industry that are eventually also utilised by other industries (e.g. machine tools such as metal grinders)
2. Electricity, which resulted in a paradigm shift in virtually all production processes throughout the world, supplementing the use of steam, gas and oil as sources of energy and revolutionising the nature of primary, secondary and tertiary industries
3. Systems of manufacturing, where countries that historically opted for a relatively higher mix of resource intensive/labour saving techniques experienced more technological improvement than those that encouraged craft techniques
4. Economics of scale (also referred to as increasing returns to scale), which represents a concept most commonly associated with the indivisibility of certain capital inputs. An obvious example is that of computerised process machinery and equipment designed for large-scale production. Economies of scale can also be reaped through large-scale production runs that allow waste production to be converted into profitable by-products. Some forms of renewable energy serve as examples (e.g. biomass).

5. According to Lipsey & Carlaw (2001) the development of the automobile industry represents a single specific technological breakthrough that eventually spawned a revolutionary new method of production (via an assembly-line), as well as a host of new secondary industries, branching into a diversified supply-chain.
6. Changes to the rates of factor augmentation/substitution between labour and capital, where a shift towards the more productive input will result in a proportionally higher rate of increase in output.
7. Information retrieval at call epitomises the new technological revolution that has irrevocably changed the nature of business around the globe in the space of only two decades. The latest technological revolution is being observed through the gradual elimination of geography as a controlling variable. The new age of communicating has affected every single sector of economics, from primary activities such as agriculture (where products can now be traded on a futures exchange before they are harvested) to manufacturing (which is increasingly being characterised by specialisation and sub-contracting) and the services sectors which are becoming the dominant source of value added in most economies.
8. The central role of the computer in the post-industrial economies is paramount and its impact on TFP can be compared to that of the invention of the automobile. Computers have dramatically changed the nature of markets. They facilitate the rapid storing, analysis and communication of information. They also have a wide range of practical applications, particularly in the fields of science (dissecting living organisms), engineering (the creation and testing of designs) and training (simulated control of air travel).

It is interesting to note the existence of technological complementarities between these origins of TFP that were at play with the historical development of ground-breaking GPTs, especially in the motor manufacturing industry.

The latter proved to be capital intensive at the assembly stage, where oligopolistic firms could reap the benefits of economies of scale whilst a more competitive business environment was created by the linked parts and components manufacturers. The invention of specialised machine tools, electricity and eventually computerised design and process techniques has also been an integral part of the industry's development.

Research conducted by UBS suggests that fiscal stability and the financial health of firms also matter for factor productivity growth. Weak balance-sheets can constrain the availability of capital for new infrastructure and manufacturing facilities, as well as the research & development that underpins technological innovation.

See also: *Production function*

Fiat currency

Currency of a national government (notes & coins) that is not convertible into a fixed unit of a commodity (such as gold) and possesses no intrinsic value, but made legal tender by fiat order of the relevant government

See also: *Exchange rate; special drawing right*

Fragile States Index

An annual ranking of 178 nations based on their levels of stability and the pressures they face. The Index is based on The Fund for Peace's proprietary Conflict Assessment Software Tool (CAST) analytical platform and was previously known as the Failed States Index.

The Fund for Peace is an independent, nonpartisan, non-profit research and educational organisation that works to prevent violent conflict and promote sustainable security. This is done through research, training and education, engagement of civil society, building bridges across diverse sectors, and developing innovative technologies and tools for policy makers.

The Fund for Peace focuses on the problems of weak and failing states and is widely regarded as a leader in the conflict assessment and early warning field. Its objective is to create practical tools and approaches for conflict mitigation that are useful to decision-makers.

Based on comprehensive social science methodology, data from three primary sources are triangulated and subjected to critical review to obtain final scores for the Fragile States Index.

Millions of documents are analysed every year, and by applying highly specialised search parameters, scores are apportioned for every country based on twelve key political, social and economic indicators and over 100 sub-indicators that are the result of years of painstaking expert social science research. The twelve key indicator groups are:

Social & economic indicators

- Demographic pressures
- Refugees & internally displaced people
- Uneven economic development
- Group grievance
- Human flight & brain drain
- Poverty & economic decline

Political & military indicators

- State legitimacy
- Public services
- Human rights & rule of law
- Security apparatus
- Factionalised elites
- External intervention

G-20

The Group of Twenty (usually referred to as the G-20) is an international forum for the governments and central bank governors from 19 major individual economies and one region, the European Union. The latter is represented by the European Commission and the European Central Bank.

The grouping was formed in 1999 with the aim of providing a forum for the discussion of policy issues relating to the promotion of international economic and financial stability. Its inaugural summit was only held in 2008 and a year later it was decided that the G-20 would replace the smaller G-8 grouping as the main international forum for economic policy issues.

Collectively, the G-20 economies account for approximately 85% of global GDP and 67% of the world population.

Ever since its inception, the G-20's policy recommendations have been criticized by academics from different ideological perspectives and its annual summits have always attracted protests from fairly disorganized hippie-style individuals and organisations representing a wide range of lobby groups, including environmentalists and anti-globalists.

Unfortunately, the G-20 does not represent much more than a club of influential political leaders and it has been spectacularly unsuccessful in resolving key issues such as civil war in dozens of countries, the Greek debt crisis or the global recession of 2008/09.

The table ranks the 19 individual member countries of the G-20 by size of the economy in 2014 in current US dollars.

G-20 nations ranked by 2014 GDP (4 trillion)			
United States	17.35	Canada	1.79
China	10.36	Australia	1.44
Japan	4.60	Korea	1.41
Germany	3.87	Mexico	1.29
United Kingdom	2.95	Indonesia	0.89
France	2.83	Turkey	0.80
Brazil	2.35	Saudi Arabia	0.75
Italy	2.15	Argentina	0.54
India	2.05	South Africa	0.35
Russia	1.86		

Globalisation

Globalisation seems destined to remain an ambiguous concept. To the management consultant advising a large company globalisation is often equated to a marketing campaign aimed at penetrating markets in other countries.

To a company such as Daimler it involved the expansion of a motor vehicle manufacturing plant in South Africa with the purpose of supplying certain vehicle models to the domestic market and also for exports to a variety of countries. To government officials involved with industrial strategy, it means the continuous pressure to liberalise trade, mainly through the lowering of import tariffs.

From a macroeconomic perspective, globalisation is mainly concerned with the trend for international trade to increase its share of world output (over the past three decades, the ratio of world trade to GDP has more than doubled).

The International Monetary Fund (IMF) provides the following fairly comprehensive definition of globalisation that attempts to capture its relevance in macroeconomic terms (as quoted in Dauphinais and Price - 1998):

> *The growing interdependence of countries worldwide through the increasing volume and variety of cross-border transactions in goods and services and of international capital flows, and also through the more rapid and widespread diffusion of technology*

Consensus exists amongst economists and decision-makers in business alike that globalisation possesses a structural dimension that is playing a vital role, together with the gradual universal trend towards democracy, in altering the character of the multinational corporation (MNC).

The result is a world economy that is witnessing new opportunities and interdependencies, which change the terms and conditions for competitive success.

Criticism of globalisation may therefore be akin to criticising the weather – there is not much that one can do about it. An anti-globalisation lobby nevertheless exists, particularly in developing countries and amongst organisations & individuals with strong socialist leanings.

Whilst poverty in under-developed countries certainly represents one of the most pressing socio-political and economic issues of our time, it is incorrect to lay the blame for this problem on globalisation.

In fact, the growth of world trade and the expanding reach of MNCs, together with the other key drivers of globalisation, have benefited most emerging markets and developing economies more than the group of post-industrial countries.

In the analysis of empirical evidence of the near-universal beneficial effect of globalisation, it is important to take cognisance of the fundamental macroeconomic policy approaches followed by different countries. Authoritative research in this regard has been conducted by Dollar and Collier (2001).

Their findings, covering the period 1990 to 2001, were as follows:

- Developing countries that had pursued policies of trade liberalisation and the strengthening of free enterprise principles recorded average GDP *per capita* growth of 4.2%
- High-income countries recorded average GDP per capita growth of 1.9%
- The less globalised group of developing countries recorded average GDP per capita growth of 0.9%

Empirical evidence for the subsequent period (until 2014) confirms the relentless rise in global living standards, as measured by per capita GDP based on purchasing power parity (PPP).

It is also clear from the data in the table that developing countries have continued to outperform high-income countries during the first stages of the new millennium.

It should be noted that there will always be individual countries that are exceptions to this rule, but in most cases they are characterised by the virtual exclusion from the potential benefits of globalisation due to civil wars or oppressive political regimes.

***Per capita* GDP based on PPP and average**			
Annual growth – selected regions	**2001**	**2014**	**% growth**
Emerging and developing Asia	2 900	9 200	9.2
Commonwealth of Independent States	7 900	17 800	6.5
ASEAN-5	4 900	10 400	5.9
Emerging and developing Europe	10 000	20 400	5.6
Sub-Saharan Africa	2 000	3 700	4.9
Middle East and North Africa	9 800	17 300	4.5
Latin America and the Caribbean	9 100	15 500	4.2
Major advanced economies (G7)	32 000	46 300	2.9
European Union	25 200	36 700	2.9

Note: Rounded off to $100

Sources: IMF; own calculations

The key drivers of globalisation over the past three decades have been:

- Comparative economic advantages
- Economies of scale
- The shift towards services
- Demographic trends (high population growth in emerging markets)
- Growing sophistication of financial markets
- Modern information technology (IT)
- Multilateral trade reform
- Cultural liberty

Grexit

> *The growing interdependence of countries worldwide through the increasing volume and variety of cross-border transactions in goods and services and of international capital flows, and also through the more rapid and widespread diffusion of technology*

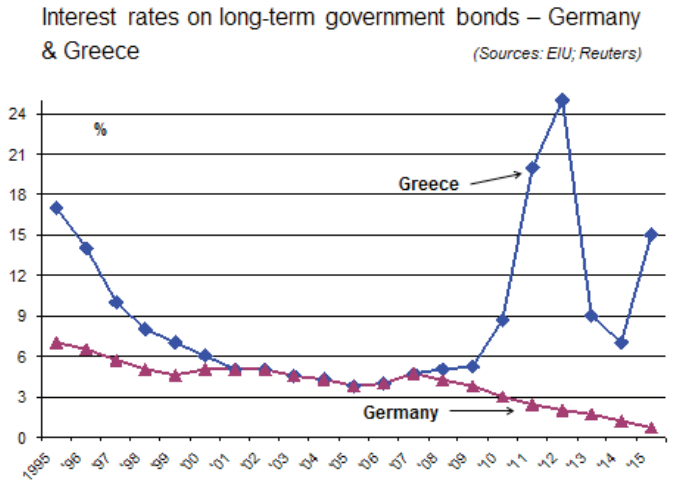
A term that combines the words "Greek" and "exit," referring to the lingering possibility of Greece withdrawing from the euro-zone, after which it would most likely revert to using the drachma, its currency until adopting the euro in 2001

The seeds for the financial crisis in Greece were sown with the dawning of the new millennium, when a number of events started to prompt excessive government borrowing.

After having been a member state of the EU for two decades, Greece realised that adherence to the fiscal stability conditions embodied in the Maastricht Treaty would dramatically lower the costs of servicing public debt.

The country proceeded to convince the EU that its budget deficit was within the official target range (below 3%) required for adoption of the euro as its currency, knowing full well that this would lower the interest rate on government bonds.

At the same time, Greece was preparing to host the 2004 Athens Olympic Games. En route to membership of the euro-zone, it became relatively easy to borrow money for the construction of all the highly-specified Olympic facilities. Between 1995 and 2001, the interest rate on Greek bonds declined by 70%, providing ample leeway for fiscal profligacy.



Initially, the country's debt remained manageable, rising from 88% of GDP in 1999 to 103% in 2007. A combination of a budget deficit/GDP ratio that was rapidly rising, the global recession and a relatively strong currency (the euro) then triggered the kind of fiscal instability that the EU had never dreamt of, with Greek public debt escalating to 177% of GDP at the end of 2014.

It turned out that the Greek government had misled the EU. In 2009, Greece shocked the EU and the world by admitting that its budget deficit was approaching 13% of GDP – more than four times the EU's limit. Predictably, key ratings agencies downgraded Greek debt, resulting in a sharp rise in bond yields and making it even more difficult to manage the growing public debt.

Various emergency funds were subsequently provided by the EU and the International Monetary Fund (IMF), in exchange for so-called austerity measures, designed to curb government spending and improve the efficiency of tax collections.

Unfortunately, these measures caused a further slowdown of the Greek economy, leading to unemployment of 25% and socio-political unrest. Political parties that promised a painless way out of the financial crisis became popular with the voters, but no amount of anti-EU sentiment was ever going to solve the problem of excessive government debt levels.

This apparently untenable situation – providing financial relief just to be able to pay the interest on a growing debt burden – is one of several problems stemming from the design of the euro-zone itself. The initial idea was for member countries to follow macroeconomic policies that would allow key indicators of monetary and fiscal stability to converge – including exchange rates. Clearly, this objective was not met.

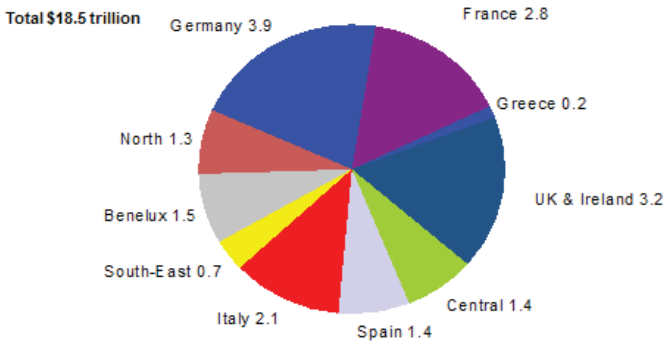
Furthermore, adoption of the euro was never going to synchronise productivity levels in Europe. The common currency is proving to be part of the problem, as it does not allow for any flexibility.

This means that even though Greek workers may not be as economically competitive as Germans, the Greek currency cannot depreciate in order to make the country's products cheaper abroad and stimulate exports.

In 2011, the EU added €190 billion of emergency funding to Greece via the European Financial Stability Facility (EFSF), but none of the bailouts were sufficient to reverse the decaying economic situation and vulnerability of the banking sector.

It should be noted that Greece is hardly a global economy of note. The country's GDP in 2014 was marginally more than one per cent of the EU regional GDP and represented merely 0.3% of global GDP. Concern over the Greek debt crisis is, however, also related to concern over the stability of the European monetary system. Default by Greece would almost certainly weaken the euro and place pressure on banks in the relatively smaller economies.

Composition of GDP – Key European Union countries/regions (2014) $ trillion *(Source : IMF)*



In the search for remedies, lessons may be learnt from the Russian debt default of 1998, which bear a remarkable resemblance to the Greek situation.

The reasons that led to the crisis in Russia included low productivity; an overvalued currency; a chronic fiscal deficit, the economic cost of a war in Chechnya (estimated at between $7 and $10 billion); the nervousness on global financial markets following the Asian financial crisis of 1997; and a commodity slump.

Russia bounced back from the August 1998 financial crash with surprising speed, mainly as a result of the decision in September 1998 to abandon the "floating peg" policy and float the Russian rouble freely. A month later, the currency had lost almost 70% of its value against the US dollar.

Inflation predictably increased sharply to more than 80% (year-on-year), but the steep increase in the prices of imported goods caused by the devaluation stimulated a variety of domestic industries, especially food processing. The recovery was also aided by a steady increase in world oil prices between 1999 and 2000, allowing Russia to generate a sizeable trade surplus.

Greece will probably be tempted to try and negotiate a temporary exit from the euro-zone, which would not affect its membership of the EU, but allow the country to return to the drachma, thereby allowing for the growth-boosting effect of currency devaluation.

Although higher inflation will necessarily follow, a return to positive economic growth should lead to a gradual recovery of investor confidence and allow the drachma to start appreciating again over the medium term.

Reforming the country's bloated public sector and structural improvements to the administration of taxation will nevertheless remain crucial for any medium-term restoration of fiscal and monetary stability.

Gross domestic product (GDP)

The total value of all goods and services produced by the economy of a country within a specified period (usually quarterly and annually)

Reference to ‘final goods and services’ means that only the value added by each sector of economic activity is included, i.e. double-counting is avoided, whilst the term ‘gross’ implies that depreciation has not been provided for.

Traditionally, a country’s GDP is stated in terms of annual production in terms of its own national currency. It is common, however, to also indicate GDP values in terms of a benchmark currency (e.g. euro or US dollar), in order to facilitate inter-country comparison.

A distinction is commonly made between GDP at current (or nominal) prices and GDP at constant prices. The latter is also referred to as the real GDP, as it eliminates the effect of inflation and provides a measure of the physical volume of total output in an economy.

For purposes of measuring welfare levels, GDP is often expressed in per capita terms. International comparisons of standards of living are further refined through the conversion of GDP per capita into purchasing power parity (PPP) terms.

It is necessary to distinguish between GDP at market prices and GDP at factor cost. To move from the former to the latter, indirect taxes (such as value added tax) need to be subtracted and subsidies (such as exists in the bakery industry) need to be added, in order to reflect factor income. Three different methods may be applied in measuring a country’s GDP:

1. *Income method*, which isolates the supply side of the macroeconomic equation and aggregates the remuneration earned by the four groups of production factors (wages, rent, interest and profits)
2. *Value added (or production)* method, which is the difference between an individual firm’s return on sales and its cost of purchases from other producers
3. *Expenditure method*, which isolates the demand side of the macroeconomic equation and aggregates all items of final expenditure by both the public and the private sectors. The latter includes expenditure on consumption goods and capital goods and net exports.

The table depicts the composition of GDP in 2014 from the demand-side perspective, whilst the graph illustrates a sustained annual increase in real output, barring the effect of the recession (in 2009), when real GDP declined for the first and, to date, only time in the post-democratic era.

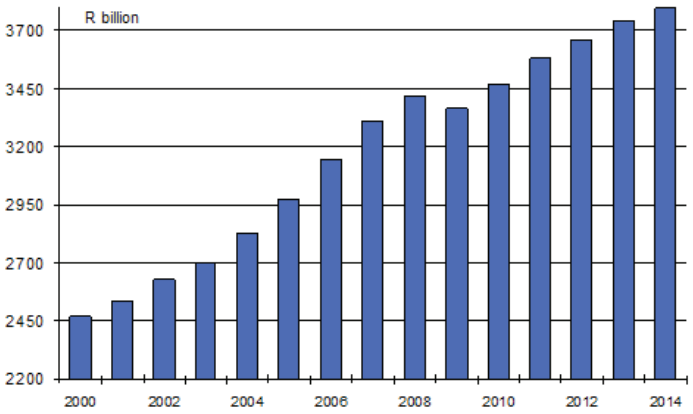
Composition of GDP 2014 - demand-side (at market prices)

	R bn
Household consumption	2 314
Government consumption	776
Fixed capital formation	777
Exports	1 194
Less: Imports	1 265
Total GDP	**3 796**

Source: SARB

South Africa's GDP at constant 2014 prices

(Sources: SARB; own calculations)



Gross national income (GNI)

Gross national income can be defined from a supply-side perspective:

> *The sum of value added by all producers who are residents in a nation, plus any product taxes (minus subsidies) not included in output, plus remuneration received from residents abroad plus income from foreign investments (including property)*

Or from a demand-side perspective:

> *GDP at market prices plus primary income from the rest of the world minus primary income remitted to the rest of the world.*

Where primary income is represented by salaries & wages, dividends, interest and rent.

See also: *National accounts; gross domestic product*

Household consumption expenditure

> *The market value of all goods and services purchased by households, classified in terms of four key categories: durables; semi-durables; non-durables; and services*

See also: *Aggregate demand*

Index number

> *A statistical measure whereby changes can be measured of a single variable or a group of indicators*

Indexation technique represents a useful tool for comparing trends for variables that are measured in different units and cannot, therefore, be compared in absolute terms.

In macroeconomics, comparisons via index numbers are usually based on time-series analysis. The underlying data may be derived from any number of sources, including company turnover, sector output (in value or volume terms), employment, and prices.

An index number states the ratio between the value of a particular variable (or group of variables) in a given period (usually currently) and a predetermined base period (usually set as 100.

For example, if the volume of mining production in 2014 was 127, with 2000 as the base year, it follows that production increased by 27% over this 14-year period.

Some of the best-known index numbers include the consumer price index and the all-share index on the Johannesburg Stock Exchange (JSE).

Inflation

A sustained increase in the general price level in an economy.

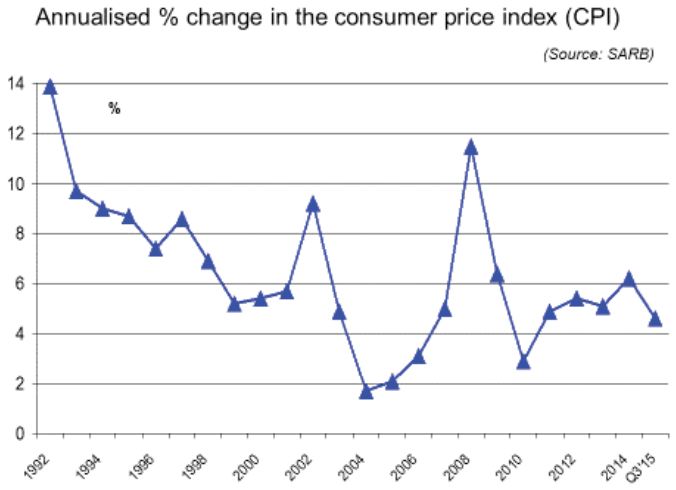
The proxy for the price level increase for consumers is referred to as the consumer price index (CPI) and is traditionally measured in terms of a weighted basket of goods and services. In order to ensure objective reflections of price level changes, the latter should ideally be calculated for different income groups.

The reasons are that significant variances exist in household consumption patterns and that different product/service groups are exposed to different rates of price changes (e.g. poorer households tend to spend a relatively larger share of income on food than high income households).

In South Africa's case, the CPI is calculated for five different income groups and the composition of the basket of consumables is also adjusted from time to time to reflect structural changes in demand.

Various methods may be utilised to express the change in the price level, but the most common one is to compare the index value of a particular month to the same month a year ago and express this as a percentage.

Other indicators of inflation include the producer price index (PPI) and the GDP deflator.



It is clear from the trend in the graph that a large measure of success has been attained with restoring price stability in South Africa, especially since the policy of inflation targeting was introduced in 2000. Over the past 16 years, the CPI has been within, below or very close (within 40 basis points) to the Reserve Bank's target range for inflation of 3% to 6%.

See also: *Consumer price index; inflation targeting*

Infrastructure

The term "infrastructure" is a relatively modern concept and is hardly encountered in classical economic readings. Prior to the development of modern free enterprise democracies, facilities that would today be regarded as infrastructure (such as roads and dams) were commonly referred to as public works or public utilities

World Bank's definition of infrastructure

Infrastructure is an umbrella term for many activities referred to as "social overhead capital"…that share technical features (such as economies of scale) and economic features (such as spillovers from users to non-users).

Economic infrastructure can be classified into three categories:

- Public utilities – power, telecommunications, piped water supply, sanitation and sewerage, solid waste collection and disposal, and piped gas
- Public works – roads and major dam and canal works for irrigation and drainage
- Other transport sectors – urban and inter-urban railways, urban transport, ports and waterways, and airports

In the World Development Report 1994, the World Bank provides a very concise definition of infrastructure as such, but elaborates on the economic component thereof via the use of examples.

Interestingly, Herrick & Kindleberger provide a useful distinction between "economic infrastructure" and "social infrastructure".

Herrick and Kindleberger's definition of infrastructure

(Infrastructure is)…social overhead capital… (which)…includes both economic investment needed to enable other production for the market to take place and purely social capital, which improves well-being directly.

Examples of this division are:

- Economic infrastructure – public utilities such as ports, roads, railroads, airfields, electricity and gas production & transmission capacity, communications networks, etc. One can also include the buildings and equipment needed for government activities, fire and police protection, the courts and other state services.
- Social infrastructure – the structures and equipment required for shelter, education, public health, and recreation.

It is clear from the above definition that infrastructure is one component of "capital formation", a term that enjoys universal application through systems of national accounts. Capital formation occurs when some portion of a country's national income is invested in facilities that serve to augment value added in future. The latter occurs through private sector investments in physical capital stock (also called "production structure") and public sector investments in the services that facilitate and integrate economic activities – infrastructure.

Todaro (2010) emphasises the crucially important role of infrastructure in raising productivity, and, by inference, a nation's international competitive advantage. Essentially, this takes place through lowering the costs of production, an issue that is also acknowledged by the Development Bank of Southern Africa (DBSA).

In the DBSA's *Infrastructure Barometer* (2006), it is pointed out that infrastructure categories such as transport, energy, water, and information & communications technology (ICT) are all imperative to improving macro-economic efficiency through, for example, reducing the cost of doing business.

The DBSA also points out that each of these categories is important for broader development goals, by delivering outcomes which improve the quality of life and increase workforce productivity.

Interest rates

In modern free-enterprise economies, the interest rate serves as the indicator of both the cost of credit (to a borrower) and the return on investment (to a lender). In his treatise *The Theory of Interest*, Irving Fisher (1930) added the following succinct sub-title: "as determined by impatience to spend income and opportunity to invest it". Fisher describes the rate of interest as the link between income and capital and defines it as:

> *The per cent of premium paid on money at one date in terms of money to be in hand one year later.*

The most fundamental theory of the rate of interest was developed by Eugen von Böhm-Bawerk (1906) and other members of the so-called Austrian School, writing towards the end of the 19th century. In this theory, the supply of capital is regarded as being determined by the time-preference of lenders – i.e. their willingness to postpone present consumption. The demand for capital is regarded as being determined by its marginal productivity.

In this model, the productive use of capital expands the future supply of goods at the sacrifice of immediate consumption of present goods. In order to induce potential lenders to make such sacrifices, a rate of interest is required that is equal to the marginal productivity of capital used in production.

Rationale for paying interest

The underlying rationale for the payment of interest is related to the following:

- The lender should be entitled to a share of the profits that emanate from the productive use of the loaned funds
- Due to the presence of risk (either partial repayment or non-repayment), lenders are entitled to a risk premium
- In an inflationary environment (even marginally so) present consumption is always worth more than future consumption – hence the interest rate factor to bridge this gap
- Loanable funds provide the service of liquidity, which should be rewarded

In some countries and within some ideologies, criticism continues to be levelled at the morality of charging interest. Marxism, although virtually universally discredited after the collapse of the world's centrally planned economies, condemned high interest rates from the perspective of social ethics, whilst Islamic fundamentalism condemns usury from a religious perspective.

Benchmark interest rates

Three distinct benchmark rates of interest can be distinguished in South Africa.

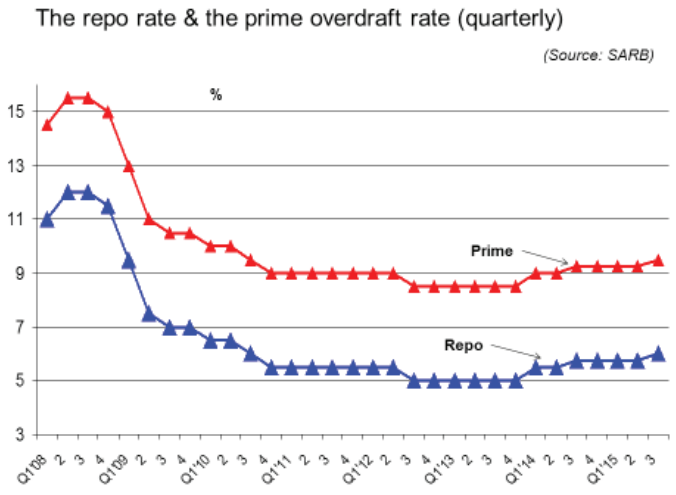
- The repurchase rate (referred to as repo rate), which is determined by the central bank (the South African Reserve Bank - SARB) and serves to communicate the policy stance of the monetary authorities
- The prime overdraft rate of banks (which is linked to the repo rate), widely used to determine the cost of borrowing, including mortgage and leasing finance
- The yield on government bonds, which reflects the return on capital market investments

Factors influencing the level of interest rates

Interest rates (both their levels and patterns) are influenced by the following factors:

- *Inflation*
  Higher levels of anticipated inflation in an economy will tend to increase levels of nominal interest rates in both the money market and the capital market, simply to neutralise its negative effect on real interest rates (which are what investors are interested in).
- *Public borrowing*
  Unforeseen increases in the borrowing requirements of the public sector (usually as a result of excessive government expenditure or a decline in taxation revenues) lower the amount of saving that is available for private sector borrowing. The corollary vests itself in upward pressure on interest rates.
- *Open market transactions*
  Deliberate actions by the central bank to increase or decrease liquidity in the financial markets through the buying or selling of public sector securities leads to a shift in the money supply curve and a change in interest rates.
- *Risk*
  In economics, risk is distinguished from uncertainty in that the former term is usually linked to some quantifiable judgement of probability, hence the logic of assigning a premium to risk (in the form of an interest rate). The higher the perceived exposure to loss, the higher the value of this premium will be. An example would be the difference between the lending rate faced by a large and profitable listed company (e.g. Sasol and Barloworld) and the rates applied to individuals by micro-lending firms.
- *The international interest rate structure*
  Theoretically, in the absence of any restrictions on international trade and finance, the process of arbitrage would result in a trend towards global interest rate conformity. In practice, the existence of a plethora of direct and indirect restrictions on foreign exchange flows prevents this process. Although a large degree of interest rate arbitrage has occurred in the post-industrial economies (notably the member states of the European Union), most emerging market economies remain too diversified in terms of their level of socio-economic development to make such arbitrage even a remote possibility. For example, in the beginning of 2005, the short-term lending rate spread for moderate risk borrowers in emerging market economies varied from 8% in Chile to 31% in Turkey, representing 2 300 basis points.
- *Monetary policy signalling*
  The SARB's post-1998 operational procedures for domestic liquidity management implies the existence of two different "signalling rates", whereby the monetary authorities attempt to guide the rate at which banks are allowed to create new deposits via their loan advances. These rates are the repo rate and the Marginal Lending Facility rate. The latter is specifically designed as a penal rate and has been used with good effect to discourage banks from lending activities. In combination, these two interest rates serve to "engineer" both the lending and deposit rates of banks.

- *Liquidity*
  Immediate command over purchasing power in the form of money, the most liquid of all assets, constitutes a useful service in a modern economy. The reward for parting with liquidity has become vested in various interest rates assigned to the different financial instruments. Keynes stated that the liquidity of assets is determined by the ease and certainty with which they can be converted into money. The role of the interest rate, then, is to act as an objectively verifiable indicator of the liquidity premiums that wealth holders require in order to persuade them to invest in various assets other than money. The less liquid an asset, the greater the reward must be, which explains why securities that are relatively close to maturity will tend to possess a lower yield than longer term securities.



The graph illustrates the fixed relationship between the repo rate and the prime overdraft rate, as well as the more accommodating monetary policy stance which was introduced during the recession of 2008/09.

See also: *Repo rate*

International competitiveness

Macroeconomic theory, on its own, cannot explain the variety of reasons for the existence of variances in competitiveness and productivity at international, regional and inter-industry level.

Since the dawning of the so-called post-industrial era, the concepts of competitiveness and globalisation have moved beyond being buzzwords in the business fraternity to representing a dichotomous reality: harsh to countries that cannot compete and a boon to countries that manage to create a socio-economic environment conducive to enhancing the welfare of their citizens at a healthy pace.

It should be pointed out that competitiveness has a universal appeal. It is by no means an issue that is limited to the domain of developing countries that are attempting to close the welfare gap with high-income countries. The largest economy in the world, the US, which already boasts a high degree of international competitiveness, has established the Competitiveness Policy Council, which seeks to develop national strategies to enhance the productivity and international competitiveness of US industries.

Lockwood (2008) correctly points out that competitiveness remains a relative concept (an aspect that is not adequately acknowledged in several authoritative definitions of the concept). An improvement by a particular country in several of the diverse aspects that influence competitiveness does not automatically imply that it will be more

competitive. If the rate of improvement, and their collective impact, is less than that of other competing countries, then the competitiveness of the country in question might actually deteriorate in relative terms.

To fully understand the nature of competitiveness and also South Africa's international standing in this regard, it is necessary to briefly define and analyse the concept from three different perspectives, namely its meaning in terms of classical economic theory, the contribution made by Michael Porter's so-called ?national diamond? model of competitiveness and the authoritative and detailed global competitiveness indicators developed, researched and updated annually by the World Economic Forum (WEF).

In conclusion, a comprehensive and modern definition of the concept of international competitiveness will be constructed that encompasses, in a nutshell, the salient characteristics of these three perspectives.

1. Macroeconomic definition

Competitiveness, as a macroeconomic phenomenon, is defined simply as the relative price of foreign goods versus domestic goods, taking into account any changes to the exchange rate.

The equation is as follows:

Competitiveness = ER (Pf)/Pd

Where:	ER =	the price of the domestic currency in terms of one unit of foreign currency
	Pf =	the price index of foreign goods (imports), and
	Pd =	the price index of domestic goods (exports)

For purposes of assessing the impact of changes to the value of competitiveness defined above, it is necessary to point out the following characteristics inherent in the equation:

- It represents the inverse of the concept "terms of trade", which is defined as the price ratio of a country's exports relative to its imports.
- Any single factor that increases the absolute value of ER (PF)/Pd represents an improvement in competitiveness.
- It is implicitly assumed that traded goods are not perfect substitutes and that market imperfections are present in international trade (both are realistic). It should be noted that, in the absence of these assumptions, purchasing power parity would hold at all times and competitiveness indicators would not have much relevance.
- In practice, a country's real effective exchange rate (REER) provides a fair indication of relative price competitiveness in international trade and this indicator is widely used for this purpose. During the period 2002 to 2004, a significant strengthening of the REER of the rand occurred, much to the dismay of South African exporters.
- A so-called "automatic stabiliser" is often at play in the aftermath of a noteworthy currency movement. After a significant depreciation, imports become more expensive, which provides an incentive for retailers and wholesalers alike to procure locally-produced goods. Simultaneously, export receipts (in local currency terms) increase, resulting in a two-pronged trend for a strengthening of the trade balance and, ultimately, a recovery of the currency value.

2. The Porter "diamond"

In order to provide a more comprehensive understanding of the key determinants of a country's competitiveness, Michael Porter (1990) developed a model of national competitiveness that involves four key groups of attributes, with two exogenous variables that also influence this so-called "national diamond". A brief discussion is provided of the approach that decision-makers need to follow in order to enhance the competitive platform of any particular industry.

- *Factor conditions*
  These are essentially the same production factors as those encountered in a typical production function, except that entrepreneurship is excluded (elements of entrepreneurial endeavour are included in one of the other components of the diamond, namely firm strategy, structure and rivalry). Porter identifies the following categories of factor conditions: human resources, physical resources, knowledge resources, capital resources and infrastructure. A distinction between basic and advanced factor conditions is also made.
- *Demand conditions*
  In Porter's model, domestic demand acts as a catalyst for enhanced competitiveness through effective and rapid communication between buyers and sellers. Emphasis is not only placed on the obvious importance of the size and growth of demand conditions, but also on the nature and composition of demand.
- *Related and supporting industries*
  Porter recognises the role of clustering and states that the presence of internationally competitive industries potentially confers competitive advantages to other industries. Hoover and Garriatani (1985) provide a macroeconomic rationale for this element of Porter's diamond by identifying three distinct levels of economies of size for any particular industry that exhibits clustering, namely those associated with the size of the individual location unit (plant, store or showroom); the size of the individual firm; and the size of the clustering of the activity at a particular location. These cluster economies have the effect of either a progression on the downward-sloping segment of the average total cost curve (i.e. lower costs and increased output) or a shift in the average cost curve towards the origin (current output at a lower cost).
- *Firm strategy, structure & rivalry*
  Porter's research has shown the existence of significant differences between countries in the area of managerial style and organisational skills. These occur in areas such as the training background; emphasis on leadership; group versus hierarchical decision-making; the role of individual initiative; the nature of relationships with customers; attitudes towards globalisation and international trade and relationships between labour and management. Furthermore, domestic rivalry continually pressurises firms to upgrade and innovate.

Finally, two exogenous variables influence these four elements of the diamond. Firstly, government activities impact on the model through a variety of rules, regulations and taxes over which firms have no control.

Secondly, chance events such as a national disaster, a war or a new invention may also impact on the competitiveness of firms.

3. The Global Competitiveness Index

Over the past three decades, the annual Global Competitiveness Report (GCR) published by the World Economic Forum (WEF) has studied and benchmarked the many factors underpinning national competitiveness in 144 countries (currently).

The GCR is widely regarded as possessing best practice status in providing insight to decision-makers about the best strategies and policies to help countries identify and address obstacles to improving competitiveness. According to the WEF, competitiveness can be defined as:

> *The set of institutions, policies, and factors that determine the level of productivity of a country.*

The level of productivity, in turn, sets the level of prosperity that can be reached by an economy. The productivity level also determines the rates of return obtained by investments in an economy, which in turn are the fundamental drivers of its growth rates. In other words, a more competitive economy is one that is likely to grow faster over time.

The GCR acknowledges the existence of many determinants that drive productivity and competitiveness. While all of these factors are likely to be important for competitiveness and growth, they are not mutually exclusive—two or more of them can be significant at the same time.

This open-endedness is captured within the WEF's Global Competitiveness Index (GCI) by including a weighted average of many different components, each measuring a different aspect of competitiveness.

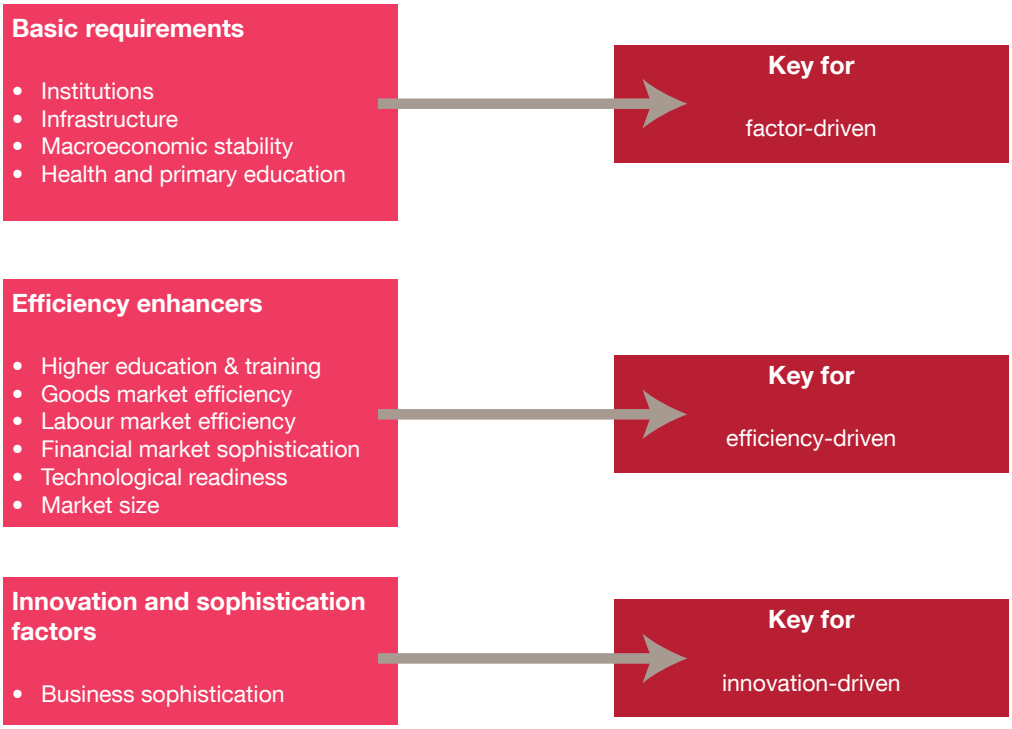
The components included in the GCI are grouped into 12 pillars of competitiveness:

i. Institutions
ii. Infrastructure
iii. Macro economy
iv. Health and primary education
v. Higher education and training
vi. Goods market efficiency
vii. Labour market efficiency
viii. Financial market sophistication
ix. Technological readiness
x. Market size
xi. Business sophistication
xii. Innovation

A relatively recent innovation of the *Global Competitiveness Report* is to classify participating countries in accordance with their "stage of development" and to weight the different pillars listed above in accordance with their perceived importance to that country's stage of development.

A country's stage of development is based on the level of GDP per capita at market exchange rates, and on the share of primary goods exports to total exports. On the basis of these indicators, participating countries are regarded as being factor driven, efficiency driven or innovation driven economies.

The classification of countries, and the relative importance of the different pillars listed above to the different stages of development are illustrated in the figure below, whilst the weightings assigned to the different stages of development are depicted by the table:



GCI sub-index weights and income thresholds for stages of development

	Stage 1 Factor driven	Transition Stage 1 to 2	Stage 2 Efficiency driven	Transition Stage2 to 3	Stage 3 Innovation driven
GDP per capita threshold ($)	<2,000	2,000 -3,000	3,000 -9,000	9,000 -17,000	>17,000
Weights (%)					
Basic requirements	60	40 -60	40	20 -40	20
Efficiency enhancers	35	35 -50	50	50	50
Innovation & sophistication	5	5 -10	10	10 -30	30

4. Concluding definition

Against the background of the above perspectives on the concept of international competitiveness and within the current era of an ever-globalising world economy possessing both post-industrial and under-developed components, it is useful to provide the following concise definition:

> *The ability of a country (also in relative terms) to increase national wealth by the efficient management of its production factors and infrastructure, business processes and participation in international trade*

The achievement of a greater level of international competitiveness can be facilitated by, *inter alia:*

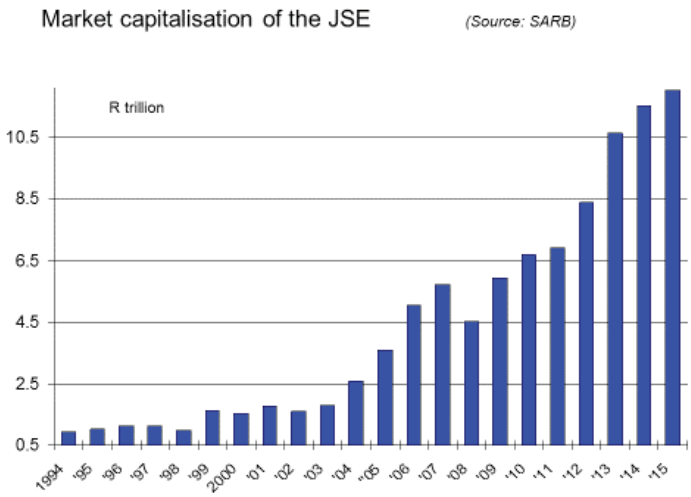
- A regulatory environment that maintains high standards whilst also incentivising the expansion of private sector business
- Modern production techniques that allow for productivity gains and incorporate appropriate technologies
- An education system that is aligned to the skills requirements of a globalising economy and that allows for the development and absorption of human capital
- An open economy that incentivises inward foreign direct investment
- An efficient labour market in terms of the alignment of remuneration with productivity and sound cooperation between employers and trade unions

Johannesburg Stock Exchange

The Johannesburg Stock Exchange (JSE) is the largest stock exchange in Africa and one of the 20 largest in the world (in terms of total market capitalization). In terms of market capitalization/GDP ratios, the JSE is in the top-five globally.

A stock exchange is a market where stock brokers, companies or individuals can buy and/or sell shares (also called equities or stocks) in public companies, bonds (issued by the public & private sectors), and other securities.

The figure illustrates the long-term upward trend in the value of the JSE's market capitalization.



Stock exchanges also provide facilities for the initial issue of securities and the payment of dividends. In the case of a company that is newly listed on the stock exchange, the share issue is referred to as an initial public offering (IPO).

Functions of stock exchanges include the following:

- Source of capital for companies that wish to expand their productive capacity (in addition to the capital provided by retained earnings)
- Provision of liquidity to sellers of securities
- Allows individuals and companies (especially pension funds) to share in the profits of private sector companies
- Provides an alternative investment option that entails the potential to earn both capital gains and dividends

- Strict rules and regulations ensure that corporate governance standards are maintained at an exceptionally high level
- Enhances a country's growth performance by facilitating the flow of funds to capital formation, usually as a response to increased demand
- Assists governments that wish to raise funding for infrastructure projects
- A well-functioning stock market serves to attract the interest of international portfolio investors and global companies that are considering expanding into other markets
- Movements in stock market indices serve as indicator of economic activity

Three of the most notable stock exchanges are those in London, New York and Bombay. The London Stock exchange is the oldest in the world. It began formal operations in 1773, but its roots can be traced back to 1698 when John Castaing began to keep a list of stock and commodity prices. Today, it is the largest stock exchange in Europe, with a market capitalization of more than $ 6 trillion (January 2015). It is also the most international of all stock exchanges, where investors can purchase securities from more than 50 counties.

The New York Stock Exchange (NYSE), also known as the "Big Board", is the largest stock exchange in the world by a considerable margin, with a total market capitalization of more than $ 19 trillion at the beginning of 2015.

Established in 1875, the Bombay Stock Exchange (BSE) is the oldest stock exchange in Asia. It has more than 5,000 listed companies, more than any other exchange in the world.

Keynesian policy

Modern macroeconomic theory has been heavily influenced by the pioneering work of John Maynard Keynes, whose book *The General Theory of Employment, Interest and Money* was published in 1936.

Keynes' theories and subsequent refinements thereof were based upon attempts to find explanations and remedies for the negative effects of the long and serious recession that the industrialised world suffered between World War I and World War II. During this time, many countries experienced stagnant or declining growth trends, as well as high levels of unemployment.

Keynes argued that, under circumstances of extraordinary low levels of investor and consumer confidence, free enterprise economies lacked sufficient self-correcting mechanisms to stimulate aggregate demand and restore full employment at higher levels of output in the short term. His initial prescriptions for macroeconomic policy entailed a significantly larger role for government expenditure programmes, which was regarded as quite radical by most of the neo-classical economists of the time.

During the early stages of the debate on his theory of demand management, he was confronted by the argument that, in the long run, the market mechanism would restore macroeconomic equilibrium in industrialised countries at levels of virtual full employment income. His famous riposte was: "In the long run we are all dead" (as quoted in Galbraith, 1987). Keynes was sincerely concerned with the development of a hypothesis that would make it possible for policy-makers to do something meaningful about the depressing economic circumstances that persisted for most of the first half of the 20th century.

The gist of the approach recommended by Keynes, which was analytically developed by John Hicks (1965) and others, was that a government could stimulate demand during recessionary circumstances, and thereby effectively spend an economy out of a recession.

Economic policies based on Keynesian premises were eventually adopted by virtually all of the governments in the world, and they proved to be highly successful in creating employment and stimulating both aggregate demand and aggregate supply.

Unfortunately, most governments could not resist the temptation to continue with expansive fiscal policies beyond the levels of de facto full employment output, and this resulted in widespread and significant increases in inflation towards the end of the 1970s.

Governments had also abandoned the type of expenditures recommended by Keynes (mainly aimed at infrastructure and skills development, i.e. enhancing supply-side capacity in the economy as well as stimulating demand), and had started designing elaborate social welfare systems that were simply not affordable In terms of taxation capacity) and were eroding the incentives for productivity.

Despite the disillusionment that set in towards the middle of the1970s over the fiscal role of government in the economy, Keynesian demand analysis remains a useful tool to illustrate the functioning of demand factors, and their interrelationship with aggregate output.

This point was underscored during the 2008/09 global recession, when many governments around the world resorted to some form of Keynesian remedy, in order to prevent a deepening of economic output decline.

See also: *Automatic stabilizer (public finance)*

Labour

Labour as a supply factor can be defined as:

> *The mental and physical exertion of humans applied in the production of goods and services.*

The contribution of every individual to economic output is valued in terms of labour remuneration (salaries, wages or commissions) and may be calculated in terms of the marginal product of labour. From an economic perspective, labour consists of clear quantitative and qualitative dimensions, namely the number of workers and their different skills levels, respectively.

It is common practice to classify a country's labour force into three broad categories, namely *highly skilled; semi-skilled; and unskilled*. Within the first two categories, a large number of different vocations may be identified.

Owners of especially small and medium sized businesses are often also the managers of these businesses. A degree of convergence therefore exists between the managerial sector and the supply factor of entrepreneurship.

Labour as a production factor is closely associated with the concept of human capital formation, which may be defined as:

> *Additions to the stock of acquired skills, knowledge and capabilities of people that may improve their productivity and levels of remuneration in the economy*

A cursory analysis of the levels of educational attainment reveals shortcomings in South Africa's stock of human capital. This unfortunate state of affairs has to a large extent been attributed to a long legacy of inappropriate education policies as well as an inefficient primary education system.

Furthermore, South Africa suffers from the ignominy of the lowest global competitiveness ranking for cooperation between labour and employers, a situation that has its roots in the high level of politicisation that occurred in the trade union movement during the pre-democracy era.

It is clear from the regular occurrence of violent and unlawful strikes in South Africa that labour market relations are in dire need of reform, in order to introduce a larger degree of stability.

Several international agencies that act to monitor the attractiveness of emerging markets for foreign direct investors have identified cumbersome and rigid labour legislation as a serious impediment to South Africa's international competitiveness.

A concept that is of vital importance to a smoothly functioning economy is the degree of *upward economic mobility* that exists. In a developing country in particular, the existence of skills-related income inequality can serve as a strong incentive for semi-skilled people and scholars/students to further their education and training. It is of crucial importance, however, for such people to have access to educational and training facilities and to have a sound grasp of an economy's requirements with regard to the different vocations.

The upward economic mobility of many South Africans was severely restricted until the end of the 1980s, due to the existence of discriminatory labour legislation. As a result, conscious efforts are being taken by both the public and private sectors in South Africa to redress past labour market inequities, a practice commonly referred to as affirmative action.

Life-cycle consumption patterns

Due to divergent propensities to consume amongst different age groups, it is important for economic policymakers to consider structural changes to demographic patterns when devising incentives aimed at encouraging saving.

It has been empirically shown in most countries that relatively young people spend more than they earn. Reasons include incurring student loans, buying vehicles via loan financing and mortgage deb. People in their middle age tend to be net savers, having contributed to pension funds, other investments in equities & bonds and also having paid off their mortgage loans. During retirement, the cycle reverts back to net spending.

It is not necessary, therefore, to match income and spending in each period, although limits obviously exist as to how much a particular individual can borrow in order to have a realistic chance of escaping financial problems at a later stage.

If a lender believes that a borrower may be spending so much that future default may occur, it is inevitable that a higher price (interest rate) will be charged to reflect the increased risk associated with the debt. The same should be true for a country, with the experience of Greek government bonds over the past six years providing a case in point.

Load shedding (of electricity)

Since 2008, the South African economy's ability to grow at an optimal rate has been severely curtailed by an on-going energy crisis, resulting in so-called load shedding or blackouts. The latter has been caused by the inability of Eskom to consistently meet the demand for electricity.

During the beginning of 2015, peak electricity demand in South Africa between Monday & Friday was running at a fairly predictable level of between 30,000 and 31,000MW, dropping to below 29,000 on weekends. In contrast, the capacity available to meet this demand was erratic, moving in a range of 28,000 to 32,000MW, mainly due to unplanned outages at ageing power stations.

In analysing the reasons for the regular shortfall of electricity supply, a number of key points emerge that paint a dismal picture of political and bureaucratic incompetence.

Almost two decades ago the Ministry of Energy was in the process of preparing a *White Paper* on future energy policy. In its submissions to government in 1998, Eskom warned that, unless new power stations were commissioned *post haste*, South Africa would run out of surplus electric power by 2007. This prediction held true, with the first bouts of load-shedding occurring early in 2008.

The previous head of state, Mr Thabo Mbeki, had the courage to admit this grave mistake in 2008, when he stated publicly that government was wrong to have denied Eskom permission to start expanding capacity at the turn of the century.

One of the reasons for the inordinate delay in implementing the expansion of energy supply is related to government's plans to introduce some form of privatisation in the energy sector, but on terms that still allowed Eskom to effectively monopolise the market – hence no takers were forthcoming and the delays stretched further and further.

A concurrent problem was the prioritisation of black economic empowerment objectives over Eskom's primary mission, namely to ensure a reliable and efficient supply of power to South African society.

This ideological pre-occupation eventually resulted in a significant skills shortage at the utility, admitted to by the then head of human resources. Modimowabarwa Kanyane, a researcher at the Human Sciences Research Council, concluded in 2012 that the policy of cadre deployment, which has been rife at Eskom, was adversely affecting public services in South Africa.

According to this research, cadre deployment places loyalty above merit, often leading to incompetent politically connected people being placed in management positions above more qualified people, with a predictable negative impact on morale.

Another reason for the energy predicament is the inexplicable decision by Eskom more than a decade ago to start cutting its maintenance budget. One can only presume that government's decision to allow the utility to pursue profit targets played a role in this unfortunate act.

It should be pointed out that Eskom provides a textbook case of a natural monopoly. Most undergraduate students of economics will confirm that such an enterprise should never be allowed to maximise profits, as this ultimately leads to lower supply and higher prices. Clearly, a fundamental grasp of universal microeconomic principles was lacking within the country's energy authorities.

Senior executives at Eskom have publicly admitted that grossly inadequate maintenance of existing power stations lies at the heart of the prospects for continued load-shedding in 2015 and even beyond.

A further complicating factor is the lengthy delay in completing the new coal-fired Medupi power station, where a familiar culprit is ever-present, namely Cosatu. The inability of this trade union federation to prevent unlawful strikes, often characterised by violence and the destruction of property, combined with poor workmanship, have pushed out the completion date by an estimated 18 to 24 months. This means that, in the absence of unstable labour markets, sufficient base-load electricity supply would have been available to prevent load shedding.

Although South Africa's economic growth prospects over at least the next two years have undoubtedly been compromised by the energy crisis, a number of positive developments point to relief over the medium term.

Firstly, two units at Medupi and one unit at the new Kusile power station could be operational by 2016, adding almost 2,400MW of supply. Secondly, close to 4,000MW of renewable energy capacity is expected to become available over the next two years, as part of the Renewable Energy Independent Power Producer Procurement Programme (REIP4).

Thirdly, the ingenuity of consumers and business managers will certainly lead to further increases in energy efficiency and also alternative applications, particularly gas and solar power. South Africans are being forced to accept the realities surrounding the supply and costs of energy, which will probably lead to the design of less energy intensive productions methods in future.

Macroeconomics

Macroeconomics involves an aggregate or global perspective of economics. Whereas microeconomics attempts to determine the nature of price and output formulation within a specific industry, macroeconomics explains the way in which an economy's aggregate output and general price level is determined.

It can be defined as:

> *The area of economics that studies the relationships encountered in the national accounts, especially national income, total expenditure, employment, inflation and the balance of payments.*

The distinction between microeconomics and macroeconomics remains useful, but it is seldom possible to analyse them independently from each other. Macroeconomics presents a broader picture of the economy wherein most universal microeconomic theories provide the underlying basis for analysis.

A more detailed study of macroeconomic theory will inevitably branch into the following sub-disciplines:

- Aggregate demand & supply
- Equilibrium income (at a national level)
- Stabilisation policy
- International economics
- Development economics
- Monetary economics
- Public finance
- The labour market

In many of these and other specialised areas of macroeconomics, one encounters a blend of different theories, many of which depend heavily on microeconomic analysis, or so-called price theory.

Origin of modern macroeconomics

Consensus exists amongst most economists that modern macroeconomics was formulated in 1936 with the publication of John Maynard Keynes' *General Theory of Employment, Interest and Money*. Earlier, during the so-called age of the classical economists, demand was always regarded as a function of supply. In Keynesian economics, supply is not only a function of demand, but is also controlled by it.

The inability of fiscal demand management theories to permanently secure the goals of macroeconomic stabilisation policy forced the economics profession to search for alternative approaches. Although Keynesian economics was not fully abandoned by development economists (particularly with regard to infrastructure creation and the role of public works programmes), classical economic doctrines have been revisited since especially the 1980s.

The economic malaise that characterised many industrialised countries during the latter half of the 1970s proved to have been the result, *inter alia*, of high marginal tax rates; minimum wage legislation; extensive welfare policies; and excessive government interference in the economy in general.

Economists now realise that it was wrong to focus exclusively on demand and to ignore the factors that increase the supply of output – capital accumulation; technical progress; improvements in the quality of the labour force; freedom from regulatory interference; and increases in personal incentives.

The new era of supply-side economic policy attempts to minimise government involvement in the economy, and its early success has been unparalleled in terms of stable growth combined with price stability in most high income and middle-income countries. Emphasis is once again placed on supply-side economic analysis and the crucial role of productivity.

Students of macroeconomics are sometimes frustrated by the presence of dozens of interrelated causal relationships, which makes it difficult to accurately forecast indicators such as GDP growth, exchange rates or inflation. Furthermore, economic theory leans heavily on so-called rational expectations of individuals and households, but these can change quite dramatically, depending on the state of the macroeconomic environment.

In order to manage these complexities, macroeconomic analysis often utilises models that represent one or more sets of interrelationships representing different elements of the economy. Although some models are often criticised as unrealistic, time-series data and tools of econometric analysis have, over the past 80 years, greatly assisted the cause of aligning theory with empirical trends.

In this process, governments around the globe have come to appreciate the invaluable role that macroeconomic stabilisation policy fulfils in a modern free enterprise economy.

See also: *Aggregate demand; aggregate supply*

Middle income trap

A concept closely associated with the PwC ESCAPE index, which may be defined as:

> *a situation where a country's growth plateaus and eventually stagnates after reaching middle income levels, due to rising wages and declining cost competitiveness, where it is unable to compete either with advanced economies in high-skill innovations, or with low income developing economies in the relatively cheap production of manufactured goods*

South Africa has recorded a modest improvement on its international ranking in the latest PwC Escape index, overtaking Pakistan & Nigeria (published in 2014). This index provides a holistic measure of a country's performance and progress over time, covering the following five dimensions:

- Economic growth and stability
- Social progress and cohesion
- Communications technology
- Political, legal and regulatory institutions
- Environmental sustainability

The acronym ?ESCAPE? is derived from these performance indicators, which can be utilised to assess a country's ability to escape from the middle income trap (for emerging economies) and from stagnation after the financial crisis (for advanced economies).

The ESCAPE index covers 20 individual variables, each weighted equally at 5% to avoid any single variable having undue influence on the overall results. It covers 42 of the largest economies in the world, accounting for around 85% of global GDP in 2012. Results are available for three years: a base year of 2000; 2007 as the last year before the global financial crisis hit; and 2012.

South Africa does not yet enjoy a high ranking in the PwC Escape Index, namely no 40 out of 42 countries, suggesting that challenges exist in the context of the middle income trap.

Over the past decade, the South African economy has regressed in the crucial area of labour market efficiency, which would have impacted negatively on the PwC Escape Index score. In terms of the latest global competitiveness rankings published by the World Economic Forum, South Africa occupies the very last position (out of 144 countries) for the indicator titled: *Cooperation in labour/employer relations* and its ranking for most of the other indicators in the labour market efficiency category are also in the bottom quintile.

PwC ESCAPE Index rankings - top-30 in 2012 (2000 ranking in brackets)			
1	Sweden (3)	16	China (21)
2	Switzerland (1)	17	Chile (23)
3	Singapore (4)	18	United States (14)
4	Netherlands (2)	19	United Kingdom (12)
5	Finland (7)	20	France (17)

PwC ESCAPE Index rankings - top-30 in 2012 (2000 ranking in brackets)			
6	Denmark (5)	21	Poland (27)
7	Australia (13)	22	Thailand (22)
8	New Zealand (8)	23	Vietnam (24)
9	Germany (11)	24	Romania (37)
10	South Korea (9)	25	Russia (39)
11	Canada (10)	26	Italy (20)
12	Saudi Arabia (26)	27	Spain (18)
13	Ireland (6)	28	Portugal (19)
14	Malaysia (15)	29	Peru (32)
15	Japan (16)	30	Ukraine (40)

For the indicator titled: P*ay & productivity, South* Africa has the 7th worst global ranking, which is justified by the dichotomous nature of labour productivity and nominal unit labour costs.

Between 2007 and 2014, labour productivity in South Africa increased by 6%, whilst nominal unit labour costs increased by 86%.

Other indicators included in the PwC Escape index where South Africa continues to experience structural deficiencies, include life expectancy, income inequality, control of corruption, the current account balance & CO2 emissions.

It is clear from a cursory analysis of the latest PwC ESCAPE Index country rankings that a strengthening of public sector corporate governance standards, combined with fiscal prudence, is positively correlated to a country's ability to remain competitive.

Monetary policy

The De Kock Commission of Inquiry into Monetary Policy (RSA 1985), broadly defined monetary policy as:

> *All deliberate actions by the monetary authorities to influence the monetary aggregates, the availability of credit, interest rates and exchange rates with a view to affecting monetary demand, income, output, prices and the balance of payments.*

Meijer (1984) argues that monetary policy should rather be viewed as consisting of decisions rather than actions. The validity of this broader view of the definition is especially relevant in an environment of changes to the rate of inflation.

It can be illustrated as follows: in a situation where the general price level is declining, a decision not to lower the interest rate applicable to repurchase transactions between the SARB and banks (the repo rate) clearly constitutes a shift towards tighter monetary policy, even though no action was taken.

In this example, real interest rates would have increased (due to the lower inflation rate), hence the result of a restrictive policy stance (through the decision by the monetary authorities not to lower nominal interest rates).

Monetary policy in South Africa is vested in a single organisation, namely the SA Reserve Bank. Central bank independence from political influence (e.g. in order to artificially stimulate the economy and job creation in the run-up to an election) is guaranteed by the South African Reserve Bank Act, 1991, as well as section 224 of the Constitution, 1996, which reads:

> *"The Bank, in pursuit of its primary object, must perform its functions independently and without fear, favour or prejudice, but there must be regular consultation between the Bank and the Cabinet member responsible for national financial matters."*

The Reserve Bank has been entrusted with the overarching monetary policy goal of containing inflation (i.e. price stability) and can use any instruments of monetary policy at its disposal to achieve this goal. This implies that it enjoys instrument independence in policy implementation, but not goal independence in the selection of a monetary policy goal.

The SARB utilises a classical cash reserve system and refinancing operations as a framework for its monetary policy implementation. An appropriate liquidity requirement or structural money market shortage is created by levying a cash reserve requirement on banks.

Refinancing occurs with weekly repurchase auctions, which is conducted with the commercial banks, at the repo (policy) rate as determined by the Monetary Policy Committee (MPC). The Bank lends funds to the banks against eligible collateral, which comprises assets that also qualify as liquid assets in terms of the prudential liquid asset requirement. An automated standing facility also exists for commercial banks to square-off the daily positions on their settlement accounts at a rate of 100 basis points below or above the policy rate (repo rate).

A range of open market operations are also conducted to manage the liquidity in the market in order to give effect to the Bank's monetary policy stance. The open market operations include the issuance of SARB debentures, reverse repos, the movement of public sector funds between the market and the Bank and the conducting of money market swaps in the foreign exchange market.

The single most important thrust of monetary policy in South Africa (as in a host of other countries) is the containment of inflation to realistic parameters, referred to as inflation targeting. These targets will obviously differ from one country to the other. In South Africa's case, the target range (i.e. the desired rate of inflation) in set at between 3% and 6%.

➲ See also: *Inflation targeting*

Money

A narrow definition of money is:

> *Any measure that is used to facilitate the immediate conclusion of economic transactions, usually involving the exchange of goods and services*

Money does not have to exist in order to affect production. In primitive societies, agricultural and rudimentary manufactured products (such as cattle, utensils and clothing) are regularly exchanged between the owners of surplus production.

Money is crucial, however, for the process of rapid and significant increases in the levels of surplus production. As such, its role is comparable in importance to that of labour specialisation and capital accumulation in transforming a society from a primitive to a modern economy.

Sir Dennis Robertson (1948) aptly summarised the dualistic nature of money in a modern society with reference to "money on the wing" and "money at rest". The former characteristic relates to money's role in facilitating transactions immediately, whilst the latter expression refers to its role as a store of value. A more formal overview of the definition, nature and functions of money is provided in this sub-section.

It is, therefore, any asset that is acceptable as a means of final payment. One may argue that a credit card or even mutual trust can thus be interpreted as representing money, but a monetary asset is still ultimately required to discharge the debt incurred by such means.

The above definition is quite narrow and to fully understand the concept of money in a modern economy, three functions of money need to be distinguished:

- A unit of account, which enables the valuation of different goods and services in some common accounting unit
- A medium of exchange, which is the most significant economic role that money plays. It should be noted that money itself is not the object of exchange, and only serves to facilitate the purchase of goods (such as food) or services (such as labour)
- A store of wealth, which allows the owner to purchase a wide variety of assets.

If money is not held in the form of cash or demand deposits, it falls outside of the strict definition of money, but a variety of financial assets exist that may be transformed into money at relatively low cost and within a short period of time. The latter is often referred to as "quasi money" or "near money".

Characteristics

In order to satisfy the functions listed above, money needs to possess the following characteristics:

- *Acceptability*. The means of payment must be generally acceptable by purchasers and sellers in *a society*
- *Recognisable (or homogenous)*. Money of a particular denomination should be made of the same material and dimensions, in order to avoid confusion
- *Divisibility.* Due to large variances in prices of different items, money should be divisible into lesser units (e.g. R100 and R10 notes)
- *Durability.* Money is handled over and over and it should, therefore, be made from relatively durable material. Metal alloys are a good example
- *Portability.* Ideally, money should be easy to handle and possess a low absolute mass
- *Scarcity.* This property relates to money retaining its value. An excess supply of money and high levels pf price increases will act to erode the purchasing power of money and would make it less acceptable as a means of exchange.

Classification

Classification of financial instruments in South Africa
Gold and other foreign reserves
Cash and demand monetary deposits
Short/medium term monetary deposits
Long-term monetary deposits
Deposits with other financial institutions
Treasury bills
Bank loans and advances
Trade credit and short-term loans
Short-term government bonds
Long-term government bonds
Non-marketable government bonds
Securities of local authorities
Securities of public enterprises
Other loan stock and preference shares
Ordinary shares
Foreign branch/head office balances
Long-term loans
Mortgage loans
Interest in retirement and life funds
Amounts receivable/payable
Other assets/liabilities

The South African Reserve Bank (SARB 2004) follows a universally acceptable broad method of classifying the money supply of the country:

- MIA = Coins and banknotes in circulation, and cheque and transmission deposits
- M1 = M1A plus other demand deposits
- M2 = M1 plus other short and medium-term deposits
- M3 = M2 plus long-term deposits

National accounts

The OECD defines national accounts as:

> *"a coherent, consistent and integrated set of macroeconomic* **accounts**, *balance sheets and tables based on a set of internationally agreed concepts,* **definitions**, *classifications and* **accounting** *rules"*

A national accounting system provides a record of all the goods & services produced in an economy, as well as a distinction between the different demand components and the share of production that was exported and imported.

It also quantifies the extent to which taxes and subsidies affect the market value of total production.

All the concepts encountered in the national accounts can either be expressed in nominal terms (at current prices) or in real terms (constant prices – adjusted for inflation).

The tables summarise the relationships between the key concepts included in a country's national accounts from the supply-side and the demand-side.

Flow of a national accounting system – supply-side
Compensation of employees
plus
Net operating surplus
plus
Consumption of fixed capital
equals
Gross value added (GVA) at factor cost
plus
Taxes on products
minus
Subsidies on products
equals
Gross domestic product (GDP) at market prices

Flow of a national accounting system - demand-side
Household consumption expenditure
plus
Capital formation
plus
Government consumption expenditure
equals
Gross domestic expenditure (GDE)
plus
Exports
minus
Imports
equals
Gross domestic product (GDP) at market prices
minus
Net international primary income payments
equals
Gross national income (GNI) at market prices

The following two tables depict South Africa's GDP for 2014 (at current prices), from a demand-side and supply-side perspective, necessarily yielding the same outcome.

Composition of GDP 2014 – supply-side (at market prices)	
	R billion
Compensation of employees	1 733
Net operating surplus	1 086
Consumption of fixed capital	522
Taxes on products	476
Less: Subsidies on products	21
Total GDP	**3 796**

Composition of GDP 2014 – demand-side (at market prices)	
	R bn
Household consumption	2 314
Government consumption	776
Fixed capital formation	777
Exports	1 194
Less: Imports	1 265
Total GDP	**3 796**

See also: *Gross domestic product*

Natural resources

A country's natural resources are comprised of:

> *Nature's endowment of inputs required for the production of goods and services.*

Natural resources represent a key component of the production function, especially in developing countries. In many so-called post-industrial economies, the role of natural resources has diminished substantially as more value is created in high-technology industries and the services sectors.

Examples of natural resources include metals; minerals; land; water; and scenic beauty. From the perspective of economic classification, natural resources refer to the values of the original resources, and not to the value added by the other three supply factors. Soon after an initial process of beneficiation, a natural resource such as iron ore is transformed to become an intermediate input in various industries before eventually becoming a product destined for final demand.

South Africa enjoys a remarkable abundance of a large number of metals and minerals and has often been referred to as the world's "mineral treasure chest". The country's dominance of world reserves and world production of minerals is depicted in the table.

This rich endowment of minerals has acted as a pillar for the development of an extensive and efficient physical infrastructure and has also contributed greatly to the establishment of the country's secondary and tertiary sectors. The best-known geological formation in South Africa is the Witwatersrand Basin, housing major gold reserves, as well as uranium, silver and pyrite.

Minerals for which South Africa enjoys a top-ten global output ranking	
Alumino-silicates	Gold
Antimony	Manganese ore
Chrome ore	Platinum group metals
Coal	Titanium minerals
Diamonds	Vanadium
Ferrochromium	Vermiculite
Ferromanganese	Zirconium minerals
Fluorspar	

Source: Department of Mineral Resources

As a result of an abundance of coal, energy costs in South Africa were amongst the lowest in the world, until the inappropriate management of the country's energy utility, Eskom, resulted in electricity supply shortages from 2008 onwards, leading to dramatic increases in the prices of electricity.

South Africa's global ranking for primary energy consumption remains higher than its GDP ranking (16th, compared to 27th, respectively).

Unfortunately, South Africa also has the following three major shortcomings with regard to natural resource endowment:

- Limited water resources in large parts of the country
- An absence of significant oil reserves
- Relatively few rivers of significant economic importance

South Africa has managed to overcome these deficiencies to some extent by applying appropriate technology; utilising highly productive agricultural production techniques; establishing a relatively efficient road and rail transport network; developing an oil-from-coal industry; and importing oil.

As a result, the country is a net exporter of food and agricultural products, and its scenic beauty and wildlife promises to continue playing a major role in the establishment of South Africa as an international tourist destination of choice.

Net national income (NNI)

Net national income is a concept that is rarely encountered in general economic analysis and reporting. To move from gross national income (GNI) to NNI, one has to add back the provision for depreciation that is part of the calculation of value added in the economy (due to a portion of a country's capital stock having been depleted in the production processes).

Although depreciation represents a cost of production, it is not an income flow concept.

GNI can therefore be defined as:

Gross National Income minus provision for depreciation

See also: *National accounts; gross national income*

Oligopoly

When a limited number of producers (usually between two and twelve) dominate the supply of a particular commodity, the market form is called oligopoly (as distinct from pure competition and monopoly).

According to research by Davies (in Deane & Cooper, 1988), oligopoly has been the prevailing market structure in most Western industrial economies.

The merit of this view is supported by high levels of market concentration in the production of a large variety of goods and services, especially transport equipment and specialised financial services.

The central feature of oligopoly is the interdependence of the limited number of firms in an industry, which means that an action by one firm will invariably impact on the performance of the others (via changes to sales volumes and profits).

The existence of barriers to entry may be exacerbated in an oligopolistic industry, which reduces competitiveness and effectively causes the industry to function as a monopoly. Antitrust legislation has often targeted industries exhibiting oligopolistic characteristics.

Pareto efficiency

This may be defined as:

An economic situation when the circumstances of one consumer cannot be improved (in terms of a level of utility) without making the situation worse for another consumer. This concept implies that the production of the goods being consumed is also efficient (in the sense that total cost is minimised).

The theory was developed more than a century ago by the Italian economist and engineer Vilfredo Pareto.

Pareto efficiency (or optimality) underpins the concept of welfare economics, which represents an apparently desirable state of economic affairs. According to Rosen (2010) this is attainable as long as producers and consumers act as perfect competitors, taking prices as given.

A competitive, free enterprise economy therefore automatically allocates resources efficiently, without any particular need for authority. As an inference, this state of affairs implies that government's role in society should be kept to a minimum.

Pareto efficiency is not, however, necessarily aligned with society's views on fairness in the distribution of the income derived from the production processes. In addition, certain so-called market imperfections may also arise in the production and consumption of goods and services, including externalities (such as pollution).

Other factors are also invariably present that require some form of government regulation to prevent any undue lowering of a society's welfare function, including the non-existence of certain markets (e.g. poverty insurance), market power of some producers (e.g. monopoly) and a variety of barriers to entry.

Personal disposable income

All net income earned by households and non-profit institutions serving households minus direct taxes.

It is important to note that all business entities are owned, in the final instance, by individual members of households. Company tax therefore has the effect of either reducing a company's ability to pay dividends or reducing its ability to utilise profits for the purposes of capital formation (expansion of productive capacity).

Company tax therefore serves to either decrease personal income directly or indirectly (via a decline in economic output that ultimately follows a decline in capital formation).

Disposable income is often used as a measure to compare the standard of living between different regions in a country and also between different countries. For this purpose, disposable income is usually expressed in per capita terms.

Aggregate personal disposable income and gross saving is derived at by progressing through the following steps:

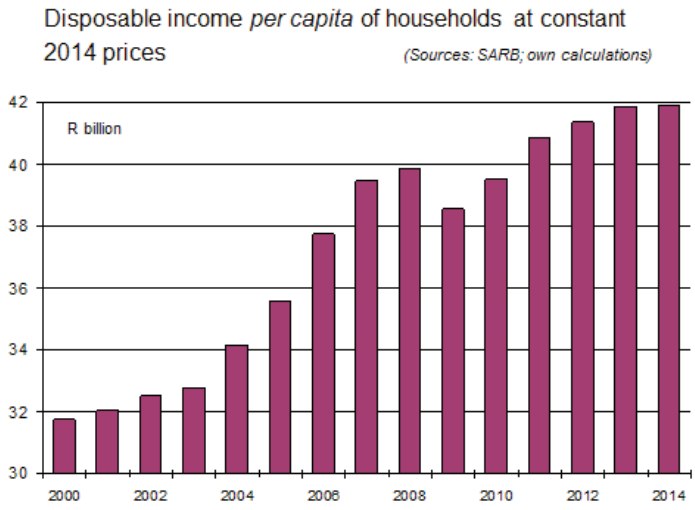
Household production, distribution & accumulation accounts 2014

		R billion
	Gross operating surplus (sole proprietaries)	486
Plus	Compensation of employees	1 731
Plus	Interest received	54
Plus	Dividends	160
Plus	Property income from insurance policies	182
Plus	Rent received	0
Minus	Interest paid	164
Minus	Rent paid	3
	Gross primary income	2 445
Plus	Social benefits received	326
Plus	Non-life insurance claims	141
Plus	Other current transfers	70
Minus	Income & wealth taxes	354
Minus	Social contributions paid	207
Minus	Non-life insurance premiums paid	141
Minus	Other current transfers	9
	Gross disposable income	**2 271**
Plus	Pension fund reserve equity increase	39
Less	Statistical residual	6
Less	Final consumption expenditure	2 299
	Gross saving	5

Note: Including non-profit institutions

Source: SARB

The graph illustrates the sustained increase (bar during the recession of 2009) in South Africa's per capita disposable income.



Price index

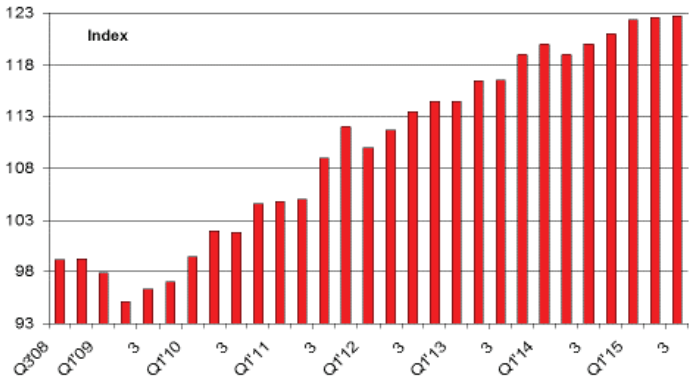
A measure of relative price changes, usually a single number which expresses the current average value of an item (or set of items) as a percentage of the value in a preselected base year (the latter being 100).

One of the best known global composite price indices is the consumer price index (CPI), which was developed in the US almost a century ago. The main purpose was to measure changes in the cost of living in order to guide decisions on wage and salary adjustments. Any increases in remuneration above the CPI would signal a real increase and vice versa.

A price index allows for the immediate expression of the total percentage change in the price of a relevant economic indicator, commodity or group of commodities, relative to the base year. For example, if the retail sales index was valued at 122 in 2014, with 2008 as the base year, it means that retail sales increased by 22% over a six-year period (122 minus 100).

This data also allows for the calculation of the average annual increase in the value of retail sales (as an example that is often reported in the financial media). It is clear from the graph that price indices can also record declines, as was the case during the 2008/09 recession.

New record high for real retail trade sales in Q3'15
(index, 2008 = 100) *(Source: SARB)*



See also: *Consumer price index; producer price index*

Producer price index (PPI)

A weighted index consisting of current price data for goods at the manufacturing (or wholesale) level, i.e. at the point of first commercial transaction, relative to a base period (stated as 100)

Statistics South Africa (Stats SA) uses two classification systems for determining the PPI (on a monthly basis, namely the Central Product Classification (CPC) and Standard Industrial Classification (SIC) systems. Price data for product groupings are sourced from industry associations or data from Statistics South Africa Stats SA industry surveys, such as the Manufacturing Large Sample Survey (LSS).

Sampled products are the actual products that are priced in the PPI process. Each sampled product will be priced consistently over time to ensure comparability. Sampled products are chosen in a manner that will ensure that their price movements will reflect the price movements of the indicator product that they represent.

The specific products are sourced from dominant role-players or data from Stats SA industry surveys and the PPI value-added weights are reviewed on an annual basis.

Three distinct advantages of the PPI over the CPI are:

i. It acts as a leading indicator of consumer price changes, usually by two to three months, which informs the monetary authorities in decisions over the repo rate

ii. The imported PPI component (mostly machinery & equipment and intermediate goods) provides an indication of the extent to which currency depreciation is likely to impact on the overall PPI and ultimately, also the CPI

iii. The sub-indices relating to specific sectors of the economy are often used as the basis for contract price adjustments, representing a more accurate indicator of price changes at the factory level

See also: *Inflation; CPI*

Production function

In economic terms, a production function states the relationship between the quantities of inputs (called production factors) and the output (production, or supply).

It is also referred to as the supply-side equation, stating the physical amount (and also value) of production that can be obtained from a given variety of combinations of production factors. Increased efficiency of the methods of production may obviously lead to higher output without increasing the quantum of inputs.

The production function can measure the marginal productivity of a particular factor of production (**i.e.** the change in output from one additional unit of that factor). It can also be used to determine the cheapest combination of input factors required for a given level of output.

Following the above analysis, it is possible to construct the following simple supply-side equation:

Y = a (C + L + NR + E)

Where:	a =	change in technological progress
	Y =	aggregate output (value added)
	C =	capital stock
	L =	Labour
	NR =	natural resources
	E =	entrepreneurship

The change in technological progress contained in this equation is often referred to as total factor productivity, which can entail a broader concept of productivity gains that do not stem from increases in the quantities of the four production factors.

See also: *Factor productivity*

Public goods & services

A public good is defined as:

a commodity that is non-rival in consumption, i.e. consumption by one person does not prevent anyone else from doing so as well

National defence and a public library serve as examples. When a good is non-rival in consumption, it means that once it has been provided, the additional cost (in terms of resources) of consumption is zero or negligible.

The second key characteristic of a public good is that of non-exclusion. When it is either impossible or very expensive to prevent someone from utilising a good or service, market forces will not function effectively. Examples are street lights and a busy street in an urban area. It stands to reason that society requires certain quantities of goods and services classified as public goods.

Even though many taxpayers will invariably assign some degree of value (of marginal utility) to such goods, these valuations will differ substantially from one person to another, and they will tend to be underestimated (the so-called free rider problem).

When consumers hide their true preferences for public goods, the market mechanism is not designed to allocate sufficient resources towards such goods. In the absence of some form of government intervention, such goods & services will not be provided at all or only to a sub-optimal extent.

An onus therefore rests upon government, subject to the results of cost/benefit analyses and overall fiscal affordability, to ensure that adequate levels of public goods be provided. In many instances, public goods are associated with infrastructure, without which a society's development process is seriously constrained.

Repo rate (repurchase rate)

The repo rate is a short term for repurchase rate, which is:

> *The interest rate at which the central bank of a country (the SARB in our case) is prepared to repurchase financial securities (usually National Treasury bonds) from commercial banks.*

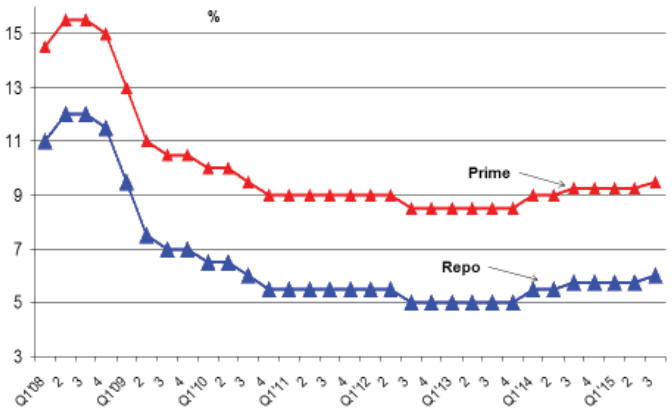
A need for such transactions usually occurs during month-ends, when salaries get paid and accounts are settled by households and business alike.

In the event of relatively high inflation, the SARB will tend to discourage undue growth of the money supply and may, therefore, raise the repo rate. In the event of rather pursuing economic growth objectives, the tendency would be to lower the repo rate.

Although, in theory, monetary policy is conducted by indirect means, a fixed relationship exists between the repo rate and the prime overdraft rate of commercial banks, as illustrated by the figure. The spread between these two benchmark money market rates is 3.5 percentage points.

The repo rate & the prime overdraft rate (quarterly)

(Source: SARB)



See also: *Interest rates*

SADC

The Southern African Development Community (SADC) is an economic union consisting of 15 southern African states, with a secretariat located in Gaborone, Botswana. The key objectives of SADC include the promotion of socio-economic cooperation and integration in the region. Its role is complementary to that of the African Union.

SADC's origins were politically motivated, namely efforts by southern African countries to assist the ending of white minority rule in South Africa, which resulted in the formation of the Southern African Development Coordination Conference (SADCC) in 1980.

After the unbanning of the ANC and progress with constitutional negotiations, SADCC was transformed into SADC on 17 August 1992, with the adoption by the founding members of SADCC and newly independent Namibia of the Windhoek declaration and treaty establishing SADC. The 1992 SADC provided for both socio-economic cooperation and political and security cooperation.

On 14 August 2001, the 1992 SADC treaty was amended, leading to an overhaul of the structures, policies and procedures of SADC, a process which is ongoing. One of the changes is that political and security cooperation is institutionalised in the Organ on Politics, Defence and Security (OPDS), which represents one of the key divisions of SADC. The organisation's supreme body, the Summit, comprises the heads of state of the member nations.

As is the case in the rest of the African continent, SADC faces many challenges in the socio-economic and political domains, not least of which are the dramatic demise of the Zimbabwean economy and the civil war in the Democratic Republic of Congo.

The region is characterised by wide-ranging differences in demographics, economic size & diversification and living standards (as measured by per capita incomes), all of which have clouded the organisation's ability to implement development initiatives.

SADC nevertheless has 27 legally binding protocols with the potential to facilitate and enhance future cooperation in the region, particularly in the areas of economic development, deregulation and inter-regional infrastructure nodes.

SADC member states ranked by GDP in 2014 ($ billion)

	$b		$b
South Africa	350.1	Namibia	13.6
Angola	129.3	Mauritius	12.6
Tanzania	48.1	Madagascar	10.7
DR Congo	35.9	Malawi	6.1
Zambia	26.6	Swaziland	4.4
Mozambique	16.7	Lesotho	2.2
Botswana	15.2	Seychelles	1.4
Zimbabwe	13.8		

Special drawing right (SDR)

The special drawing right represents an international reserve asset administered by the IMF, the value of which is based on a basket of four key international currencies, namely the euro, the Japanese yen, the pound and the US dollar

SDRs were created by the IMF in 1969 to support the Bretton Woods fixed exchange rate system by **supplementing its member countries' official reserves. At the time,** the international supply of two dominant reserve assets - gold and the U.S. dollar - proved inadequate for supporting the expansion of world trade and financial development that was taking place.

The value of the SDR was initially defined as equivalent to 0.889 grams of fine gold—which, at the time, was also equivalent to one U.S. dollar. Interestingly, the same amount of gold was worth $33 in July 2015.

The subsequent collapse of the Bretton Woods system (in 1971) resulted in the major world currencies shifting to a floating exchange rate regime. In addition, the growth in international capital markets facilitated borrowing by creditworthy governments. These developments lessened the need for SDRs, although the global financial crisis of 2009 presented an opportunity for SDR allocations to provide liquidity to the global economic system, thereby contributing to a fairly quick return to stability (outside of the European Union, where a country like Greece remains faced with structural fiscal & monetary instability).

The SDR is neither a currency, nor a claim on the IMF. Rather, it is a potential claim on the freely usable currencies of IMF members.

Holders of SDRs can obtain these currencies in exchange for their SDRs in two ways: first, through the arrangement of voluntary exchanges between members; and second, by the IMF designating members with strong external positions to purchase SDRs from members with weak external positions.

In addition to its role as a supplementary reserve asset, the SDR serves as the unit of account of the IMF and some other international organisations.

Under its Articles of Agreement, the IMF may allocate SDRs to member countries in proportion to their IMF quotas. Such an allocation provides each member with a costless, unconditional international reserve asset. The SDR mechanism is self-financing and levies charges on allocations which are then used to pay interest on SDR holdings.

If a member does not use any of its allocated SDR holdings, the charges are equal to the interest received. However, if a member's SDR holdings rise above its allocation, it effectively earns interest on the excess.

As of March, 2015, 204 billion SDRs were created and allocated to members (equivalent to about $280 billion).

See also: *Exchange rate*

State capture

A form of corruption through which private interests (individuals and firms) influence a state's laws and regulations in order to further their own interests

This usually takes place via payments (in cash or kind) to public officials through illicit or clandestine channels, often in the form of money laundering.

Authoritative academic literature and empirical analysis on the socio-economic impact of corruption are unanimous in their conclusion that corruption results in lower economic growth and harms society in many different ways.

Socio-economic impact assessments by the World Bank, as well as researchers such as Mauro, Wei, Hellmann, Kaufmann, Tanzi and Davoodi have shown that the costs of corruption within a government are mutually reinforcing.

Fiscal distortions caused by corruption, for example, erode the quality of public services, with potential negative consequences for the poor.

The negative effects of corruption on investment and economic growth similarly lead to an erosion of the tax base, further undermining the quality of public services and exacerbating poverty.

According to World Bank research, developing countries with high levels of both administrative corruption and state capture generate 20% less gross domestic investment, on average, than countries in the medium category of corruption levels.

See also: *Corruption*

Taxation

Nature and definition of taxation

One of the most famous adages on the topic of taxation is attributed to Benjamin Franklin, who wrote in 1789 that: "…in this world nothing can be said to be certain, except death and taxes". The Penguin Dictionary of Modern Humorous Quotations (Metcalf 1987) contains this and several other entries that reflect on the mirthful side of the topic. In reality, however, taxation is no joke, for it represents the bulk of fiscal revenue for most governments, but acts to reduce the extent to which individuals and firms exercise command over their incomes and profits (flowing from productive work effort & business activities.

Taxation can be defined as:

A compulsory transfer of funds from individuals, businesses and other organisations to the government

Taxes impose costs to society. For an individual taxpayer, the most obvious of these is the direct cost associated with a decline in disposable income. It needs to be pointed out, however, that an indirect q*uid pro quo* exists at all times. This is reflected in the existence of a public sector that provides a host of services to society – from courts of law to public schools and from a system of national defence to public clinics.

Taxation is also no novelty to humankind. Recorded evidence has been found in Egypt that points to the existence of census lists and tax registers during the third century B.C. A system of personal income tax was first implemented in the United Kingdom as early as 1642 and this type of taxation has developed into the single most important source of government revenue in the developed world.

Terminology

The abundance of terms relating to taxation requires a brief explanation of those that are regarded as important from an economic perspective.

- *Tax avoidance*. The arrangement of one's financial affairs within the law in such a way that one's taxation burden is kept at a minimum.
- *Tax evasion*. Illegal attempts to escape the payment of taxes, e.g. by deliberately understating earned taxable revenue or overstating tax-deductable expenditures.
- *Tax burden*. This is the total amount of money that a tax entity must pay in taxes, inclusive of direct and indirect taxes and also the costs associated with tax compliance, e.g. a payment to an accountant for assistance in completing a tax submission.
- *Tax base*. The object to which a particular tax rate is applied, e.g. value added, income or the value of a property.
- *Tax impact*. The point at which a tax burden initially rests, e.g. in the case of an excise duty on tobacco products, the tax impact will be on the manufacturers of such products.
- *Tax incidence*. The point at which the tax burden ultimately rests.

  In the case of an excise duty, the tax burden is typically shared by the manufacturers and the consumers of a particular commodity, due to the existence of supply and demand elasticities that are neither infinite nor zero. The imposition of an excise duty therefore has the effect to shift a portion of the tax burden to consumers.
- *Progressive tax*. Although commonly associated with the concept of increasing marginal tax rates, a tax system is, in fact already progressive when the average tax rate increases with income (see the table).

Progressive tax with a fixed marginal tax rate and a tax exemption of R10 000

Income (R)	Tax liability (R)	Marginal tax rate (%)	Average tax rate (%)
10 000	0	20	0
20 000	2 000	20	10
40 000	6 000	20	15
100 000	18 000	20	18

- *Regressive tax*. Conversely, if the average tax rate declines with income, it is regressive.
- *Proportional tax*. This is a situation in which the ratio of taxes paid to income remains constant, regardless of the income level.
- *Unit tax*. Levied as a fixed amount per unit of a commodity that is sold, e.g. R1 per pack of 20 cigarettes.
- *Ad valorem tax*. Levied as a percentage of the price of a commodity.
- *Double taxation*. When a tax entity or a commodity is taxed twice during any one fiscal period. An example would be the taxation of the dividends received by an individual (as income) that has already been taxed as company profits.
- *Direct taxation*. Levied on individuals, businesses or organisations. It is important to note that in the final instance, the full burden of taxes is borne by individuals. The reason is simply that companies are ultimately owned by individuals and dividends accrue to the shareholders of companies.

- *Indirect taxation*. All other forms of taxation are regarded as indirect. The most common form of indirect taxation is that which is levied on the processes of value added (appropriately called value added tax), consumption (which may be either a sales tax, an excise duty or, in the case of imported goods, an import tax, and wealth holdings (a property tax).
- *Excess burden of taxation*. Due to the fact that taxes distort economic decisions, they often cause a loss of welfare to society over and above the nominal value of the taxes paid. This is called the excess burden of taxation and is most commonly associated with a selective commodity tax (such as an excise duty), which results in changes between the relative prices of taxed commodities vis-à-vis those commodities that are not subjected to such a tax. A distortion of relative prices eventually influences the allocation of resources in an economy in a negative way. In terms of microeconomic analysis, the reason may be found in the violation of the conditions for Pareto-optimality.

Functions of taxation

The primary and most important function of taxation is to supply government with the funds that are necessary for the financing of its expenditures. Taxes should, therefore, be viewed as the *quid pro quo* for the variety of public services that are at the disposal of a society. An early observation with regard to equity should be made at this point. It is fairly obvious that individual taxpayers do not access public services in an equi-proportional manner.

Relatively poor people will tend to make full use of public health and public education, but will not have made a sacrifice (in terms of taxation) that is proportional to their levels of consumption of such public services. Relatively rich people, on the other hand, will tend to contribute a proportionally larger share of taxation than the value of their consumption of public services.

To the extent that a government deliberately pursues redistributive objectives in the design of a tax system, income redistribution constitutes a second function of taxation. A third function of taxation relates to attempts by governments to influence the pattern of economic activity in society. This is often directed at consumption (e.g. an excise duty on cigarettes, in order to discourage the habit of smoking).

A second target of tax incentives/disincentives may be production, where so-called tax holidays or other beneficial tax arrangements are offered to firms as an incentive to establish or expand a particular industry. Such a policy is often supplemented by import duties on the relevant product, in order to provide protection from foreign competitors. A further intervention is encountered in countries that exhibit a high level of imbalance in the geographical spread of economic activity. Tax incentives are then provided for investment in designated areas, often in an attempt to stem the tide of migration from rural or peri-urban areas to metropolitan areas.

Finally, the tax system can be utilised to encourage savings by exempting a certain level of interest earned from taxable income. This policy is applied in most countries, but with widely differing levels of exemption.

The principles of taxation

Two broad principles of taxation have evolved over the past century, namely the principles of equity and efficiency.

Equity

Until the middle of the 20th century, supporters of the concept of maximising economic freedom in society remained sympathetic to John Stuart Mill's argument against tax progression. Beyond an exemption of a minimum subsistence level, Mill argued that a progressive income tax acts to impose a penalty on people for having worked harder and saved more than others. His injunction to tax progression was formulated as

follows: "A just and wise legislature('s) … impartiality between competitors would consist in endeavouring to see that all should start fair, and not in hanging a weight on the swift to diminish the distance between them and the slow" (Mill 1985).

In a society without a large degree of income inequality, the principle of equity would, in fact, be best served by proportionality in taxes. In practice, however, large economic inequalities do exist in virtually all societies, and the requirement of fairness is therefore pursued with more vigour. It is usually based on the following two tenets:

- Ability to pay, in terms of which an individual's tax burden should be positively correlated to his or her command over income and wealth. This remains a highly subjective issue, due to differences of opinion over the definitions of revenue, wealth and also the degree of progression that should be implemented.
- Benefit received, which implies that people who benefit from particular government services should also bear a corresponding tax burden.

Efficiency

A responsible government will realise that taxation serves to reduce disposable income (for individuals) and profits (for businesses). Lower incomes translate into lower demand, with a lagged ripple effect into lower output and increased unemployment. Lower company profits exert a dualistic negative effect on the economy. Firstly it means a reduction in dividend payments, which has the same effect as sketched above (to the extent that dividends form part of disposable income). Secondly, undistributed profit levels decline, which reduces the ability of the private sector to invest in new productive capacity. A company tax is, therefore, de facto a tax on future growth and employment creation. These arguments constitute a sound endorsement of the need to pursue efficiency considerations in the formulation of a tax system.

Fiscal authorities are today guided by the following principles that underpin this important objective:

- *Simplicity*. This requirement entails that the tax system should not be difficult to understand and that the costs involved with the administrative compliance by individuals and businesses be kept as low as possible.
- *Low administration costs*. The collection of taxes entails a cost to the fiscus (and, ultimately, to the taxpayer), that is not related to any public service embodying an element of value added to the economy. A government should, therefore, ensure that the system of national revenue collection is administered in such a way as to keep its cost as low as possible.
- *Matching of tax impact and incidence*. In the event of the imposition of selective commodity taxation, the fiscal authorities need to ensure that their objectives with regard to the tax impact (the so-called statutory tax incidence) are not thwarted by substantial differences in the economic incidence of the taxes. In order to ensure that no mismatch occurs between tax impact and tax incidence, it is necessary to be aware of the elasticities of supply and demand of the particular commodities. As a general rule, a high degree of tax shifting will occur when the elasticity of demand is low and the elasticity of supply is high.
- *Diversity of the tax base*. The existence of a variety of tax sources protects a government from the negative impact of an unexpected decline in revenue from any one particular source of taxation. A relatively broad tax base also has the advantage of being able to keep marginal tax rates as low as possible.
- *Flexibility*. This principle is not applied in practice to the extent that some economists would recommend. In essence, the principle of flexibility maintains that tax rates and sources should be subject to regular policy amendments in order to meet changing economic conditions. An example would be to lower personal income tax rates during a recession, thereby allowing for discretionary anti-cyclical fiscal policy.

- *Moderate rates of progression*. It has been pointed out that an overdue emphasis on progressive income tax has the twin dangers of eroding the productivity of an economy and of shrinking the tax base. This is particularly true when marginal rates are relatively high and the tax ceiling is relatively low. The existence of an exemption level for low-income earners automatically introduces an element of tax progression. Attempts to effect a more rapid progression of the average tax rate may eventually yield an inferior amount of revenue than a more moderate rate of progression (over the medium to long term).
- *Minimising excess burden*. This principle is not as prone to subjectivity as those related to flexibility and the redistributive aspects of taxation. Consensus should exist with regard to minimising the costs associated with the distortions induced by various taxes, particularly those that are levied on commodities. To keep the excess burden of commodity taxes at a minimum, the marginal excess burden of the last unit of revenue raised from each commodity must be the same. To satisfy this requirement, the inverse elasticity rule has been developed by Frank Ramsey (1927), which states that, as long as goods are unrelated in consumption, tax rates should be inversely proportional to elasticities. The logic behind this rule is related to the fact that excess burden is a consequence of distortions in quantities demanded. To minimise this burden, tax rates should be differentiated in such a way that changes are in the same proportion. Efficient commodity taxation therefore requires that relatively high rates of taxation be applied to goods with a relatively inelastic demand, and vice versa.

A note on the economic effects of taxation

The income tax

Economic behaviour is affected by the imposition of an income tax, most notably through the direct effect of lowering personal disposable income. Two other important effects of the income tax that need to be considered relate to its distortion of the opportunity cost of leisure activities. This analysis is by no means abstract, because time represents the ultimate scarce resource for most income-earning individuals and work is by no means the only way in which individuals use time. Leisure activities may include a host of, arguably more pleasant ways to spend one's time, including reading, playing sport, watching sport, listening to music, watching a movie, visiting friends, pursuing a hobby or dozens of other forms of relaxation.

The income tax reduces the wages earned by an individual and, therefore, lowers the opportunity cost of rather spending time at leisure

It is uncertain, however, whether the new equilibrium (utilising production frontier/ indifference curve technique) will result in an increase or decrease in labour productivity (as represented by hours worked). This ambiguity is caused by the following two offsetting effects:

- The income effect is represented by the fact that income has declined and, for certain persons, the only available means to maintain consumption at the pre-tax level will be to increase the hours worked.
- The substitution effect relates to the fact that leisure has become less expensive. After the tax, disposable income is lower. An incentive has been created, therefore, to substitute time spent at leisure for time spent working, which, in some cases will have a negative effect on productivity through fewer hours worked.

In practice, an individual's labour supply decision will be affected by several variables, including the following:

- The level of total income (higher levels of revenue will tend to strengthen the substitution effect)
- The composition of income
- Marital status and gender (empirical studies have found that married women exhibit higher labour supply elasticities than men)

- Age
- The propensity of a particular society to engage in leisure activities, which is influenced by factors such as cultural attitudes, sporting tradition and geophysical characteristics such as climate, accessible coastline, fauna and flora, etc.

A commodity tax

Microeconomic analysis involving a (normal) downward-sloping demand curve for a particular product confirms a net loss to society as a result of a tax on the product (e.g. value added tax). This occurs via a lower level of consumer surplus that is not compensated for by the tax revenues collected.

The above analysis has important implications for the cost-benefit assessment of public projects. It means that any public project must produce marginal benefits to society of more than the combined cost of the marginal revenue raised and the marginal excess burden.

Counter-productivity of a high-tax regime

Broadly speaking, two different approaches exist with regard to the fundamental characteristics of a tax system. Free market supporters emphasise the principle of efficiency, in terms of which the economy should be encouraged to maximise its output levels. The underlying logic is clear and simple: government's tax revenue is a function (with a positive correlation) of different kinds of economic activity or asset ownership. A growing and expanding economy allows government to collect more tax revenues, with which it can address both its functional obligations and its equity objectives.

Opposed to this view one finds the approach linked to socialism, namely that the tax system should play a key role in pursuing equity objectives, particularly through high levels of tax progression. Fiscal policies emphasising income distribution have contributed to the failure of highly socialist countries to match the pace of economic progress and welfare creation of those with less interventionist policies.

The following specific dangers exist when redistribution policies are pursued without due cognisance of the causalities that underpin the macroeconomic equation:

- Theoretical and empirical proof exists that income taxes can lead to a decline in the number of productive hours worked in an economy, with a concomitant decline in aggregate output. Several economists have investigated this inverse causality between high marginal tax rates and revenue collections, particularly Arthur Laffer (1979). Econometric analysis has indicated that high income tax rates tend to lower the labour force participation rates of married women.
- The taxation function can be postulated as: T = t (EA)

Y = a (C + L + NR + E)

Where:	T =	aggregate tax revenue
	t =	the relevant tax rate, and
	EA =	the relevant taxation base (mainly vested in economic activity)

It stands to reason that excessively high taxation rates can exert a negative influence on T as a result of lower levels of economic activity. For example, high transfer duties and property taxes can act as a disincentive to purchase property and an incentive to rent.

- Highly skilled employees possess a large degree of international career mobility, and attempts to increase taxes beyond a certain limit may induce many of these people to emigrate, thereby depleting a key component of an economy's resource base.

- According to Rosen (1999), the existence of a valid argument in favour of income redistribution does not necessarily translate into the desired results. The direct and indirect costs of bureaucratic intervention in the process of income redistribution may outweigh the equity gains achieved.
- Bureaucracies that are responsible for the administration and implementation of redistribution policies are often subject to the vagaries of public sector inefficiency, combined with a trend towards the "crowding-out" of the private sector by the public sector.

In conclusion, a pragmatic approach towards taxation policy would be to ensure that the tax system is as efficient as possible in raising the revenues that are required for public sector expenditures, including a variety of expenditure programmes that benefit the poor. The objective of equity should therefore be pursued via the expenditure side of the fiscal equation.

Technology

It has been argued by the neo-classical school of economic thought that technology should be regarded as a separate production factor, which enhances the efficiency and productivity of the whole production process.

Although consensus exists on the valuable role that new technologies can play in the quest for higher output levels, it remains more appropriate to accommodate technology in the aggregate supply equation through a dynamic factor denoting embodied technical progress in the application of the various production factors.

In a developing country, it may not always be advantageous to introduce the latest technologies available. The reasons are related firstly, to the fact that many new technologies involve a diminution of the role of labour in the relevant industry, which is in conflict with the goal of employment creation.

Secondly, new technologies invariably need to be imported at a considerable cost, which may compromise both the goals of price stability and balance of payments stability. It is not uncommon, therefore, to encounter the term "appropriate technology", when viewed from the perspective of developing countries.

Since the virtual universal demise of communism and the remarkable world economic growth performance over the past quarter of a century, a so-called "new economic order" has emerged (see chapter 6), and one of the key characteristics of this phenomenon is the important role of technology in assisting the globalisation process and enhancing productivity.

Aggarwal (1999) has found that technology and globalisation act as mutually reinforcing factors in the modern business world.

The new economy

This term became popular after the end of the so-called Cold War, which had existed mainly in the form of ideological conflict for almost half a century between the democratic nations of the world and the communist states of Russia and Eastern Europe.

Essentially, the concept of a *New Economy* relates to the rise of economic and political freedom throughout the world, combined with the growing integration of the global economy. According to Francis Fukayama's provocative theory on this topic, titled: *The end of history,* the political reforms in the former communist bloc in the northern hemisphere and the spread of consumer culture throughout much of the world indicate a triumph for the so-called "Western idea".

This triumph may be of such magnitude that it promises to represent an irreversible new approach towards the relationships between public and private sector decision-makers and has been referred to as a *Pax Democratica*.

Despite the collapse of the Soviet Union, this claim has not yet been universally accepted. One of the major reasons for the lingering existence of a much-diminished socialist ideology is the ambiguity associated with the concept of freedom. However powerful the concept of freedom may be, it is also based on ethical or normative value premises that may differ dramatically from one society to another.

Both Adam Smith and Karl Marx claimed that their respective views on the relationship between the state and society embodied freedom, despite their ideologies being based on polar opposite principles.

In attempting to confirm whether the end of the 20th century indeed heralded the advent of a *New Economy,* it is necessary to avoid a disjointed ideological debate and to point out the following observations:

- Over the past four decades, more than 50 countries shed authoritarian rule and reverted to some form of democracy. According to the United Nations Development programme (UNDP 2002), 140 of the world's 200 countries now hold multi-party elections. Furthermore, a free press or partly free press now exists in 125 countries, housing 62% of the world's population.
- One of the most damaging influences of central planning/communism by an elitist and self-appointed dictatorial regime is its inability to prevent the migration of people and global flow of information, which have contributed to modern ideological views being adopted by the citizenry at large in several erstwhile communist states. Plattner (1992) points out that Soviet leaders themselves attributed their system's failures to its lack of democratic markets and political democracy. By admitting that a handful of dictators cannot ever hope to follow policies that reflect the will of the majority of the people, the erstwhile Soviet leaders effectively conceded the ideological struggle to the West.
- The freedoms associated with the economic systems that are prevalent in virtually all democracies ensure that both individual and collective initiative and achievement are rewarded, whilst inefficiency is punished. Resources are, by and large, allocated on the grounds of the maximisation of utility and productivity. The result is a highly versatile, innovative and efficient economy. In sharp contrast, Marxist-Leninist socialism has proven in practice to rely heavily on the prescriptions of an incompetent and clumsy bureaucracy. The plethora of regulations and restrictions on both the propriety and mobility of the factors of production stifle initiative and inevitably erode economic productivity.
- One of the most serious technical flaws of a totalitarian regime is its inability to adjust to new ideas, new technologies and the spread of knowledge. This is, firstly, by design, as comprehensive censorship has always been a feature of dictatorial regimes and, secondly, due to the rigidity of decision-making that had become a feature of communist societies. Shortly before the collapse of communism, there were 50,000 personal computers in the Soviet Union, compared to 30 million in the United States.
- Viewed from an historical perspective, liberal democracy is the outgrowth since the 17th century of the concerted efforts by social and political philosophers to free humanity from the shackles of dictatorial state power and the religious dogmas that were imposed by a powerful church movement in Europe. The term "liberal" is not used in this context as representing any particular doctrine on the state's role in the economy or as the opposite to the generic meaning of "conservative". It simply implies that the state is not above the law, nor above the will of society.
- Liberal democracy has been credited for the abolition of slavery of any kind, or torture for any reason, as well as progress with preventing the unequal treatment of women and minority ethnic groups (Gastil 1991).
- Finally, it is worth noting that the utter destruction of liberal democracy was the focal point of attention of fascism and similar oppressive ideologies.

The early conclusion that a *Pax Democratica* may, in fact be in the process of cementing itself as a universal characteristic of the post-industrial world has been supported by a generally robust international economic performance.

Signs are also appearing that confirm the spread of the benefits of the democratic free enterprise system to poorer countries. Since 1980, which marks the beginning of the so-called "new supply-side" era, private consumption per capita has grown by more than 2% per annum for the world as a whole, and by more than 4% per annum for the middle-income countries. Over the same period, the mortality rate for children has dropped by 45% and the world has experienced consistent improvements in most indicators of the quality of life

The magnitude of the change in the world economy over the past two decades is also reflected in increased trade and a structural change in the composition of output towards more value added in the services sectors.

The new economy or global economy as it is often referred to is, indeed, far from representing a final product. The momentum and wide-ranging nature of change to the world economy since the end of the Cold War nevertheless seem to be representative of the emergence of a new world economic order.

Trade barrier

A measure aimed at restraining the free exchange of goods between countries, traditionally in the form of import taxes

Import tariffs have traditionally represented the fundamental mechanism to effect import replacement policies. A tariff is a tax on goods that are imported from another country and automatically provides domestic producers with some financial leeway to increase domestic output.

Other forms of trade restrictions are:

- Quantitative restrictions on imports, either in *toto* or on the basis of quotas.
- Safety regulations, which may lead to embargoes of goods that do not meet prescribed standards.
- Health regulations that prevent the trade in products that do not meet certain standards of hygiene.
- Country of origin demarcation of products that could act as a deterrent to trade between countries that are hostile towards one another.
- "Buy domestic" campaigns, designed to create awareness amongst domestic consumers of the socio-economic advantages of increasing MVA.
- Externally imposed restrictions in the form of trade embargoes.

The major attraction of a policy of import substitution via a tariff is the development of domestic industries, which often also lead to improved economies of scale in backward- and forward-linked industries, thereby generating higher value added in several economic sectors, with commensurate employment creation and a broadening of the tax base.

Disadvantages include the likelihood of retaliation by trading partners and higher prices for domestic consumers.

Trade policy

International trade has played an important and, frequently, a dominant role in the process of economic development. Despite the existence of consensus amongst economists that trade barriers can only be justified in exceptional circumstances, import tariffs have remained the mainstay of trade policy for several centuries.

Neo-classical free-trade doctrines have been viewed with distrust by many under-developed countries, mainly as a result of the so-called "colonial exploitation" of underdeveloped countries whereby primary products were exported without consideration of manufacturing value added (MVA) in industries linked to the primary sector. In particular the erstwhile colonial powers have been severely criticised for the failure to engage in skills and technology transfer in underdeveloped countries, as well as maintaining relatively high levels of tariff protection on agricultural products.

Todaro's views (2000) on the limitations of traditional approaches towards trade policy are quite strong. He points out that the conclusions of international trade theory are derived from a number of explicit and implicit assumptions that in many ways are often contrary to the reality of international economic relations. In particular, it should be borne in mind that relative factor endowments and comparative costs are in a state of constant change.

Specifically, in the event of rich nations being well endowed with the key resources necessary to establish and maintain competitive advantage (especially in the area of sophisticated process computers, entrepreneurial ability, access to financial capital and technological advancement), it follows that poor countries will be forced to specialise in products that intensively use relatively unskilled labour.

Two distinct approaches towards trade policy can be distinguished, namely inward looking and outward looking.

1. Inward-looking trade policies

A universal belief that the mainspring for economic development is to be found in the process of domestic industrialisation has led most governments to intervene in the economy in an attempt to accelerate the natural shift in comparative advantage toward higher levels of MVA.

Import substitution lies at the heart of inward-looking trade development strategies. Such policies were followed during the nineteenth century by most of the high-income countries of today, and the United States effectively embarked upon a policy of import substitution in 1807 when Thomas Jefferson placed an embargo on a range of relatively cheap imports from England.

Most European countries implemented protective tariffs during the nineteenth century as an instrument for industrialisation and, although average tariff levels have declined consistently during the latter part of the twentieth century, the import tariff remains an integral part of trade policy in the modern world.

Arguments in favour of import protection

In terms of the theory of comparative advantage postulated earlier, a country that does not possess an absolute cost advantage over another country can increase its welfare through specialising in the production and export of a product that exhibits comparative cost advantage. The other country can increase its welfare by importing this product and specialising in the production and export of a product that exhibits a relatively larger absolute cost advantage.

It stands to reason that any attempt to reverse the above process through trade restrictions will lead to a decrease in the welfare of the two trading countries, with the assumption of ceteris paribus. Economic policy-makers have nevertheless developed a range of compelling arguments designed to defend inward-looking trade policies, placing most of the emphasis on employment creation and MVA.

- *Fostering economic development*
  Shortly after the US obtained independence, Alexander Hamilton put forward a case for import protection that became known as the infant industry argument. The hypothesis behind this argument is dynamic and argues for a consistent process of developing linked industries, gradually enhancing the process of MVA and moving towards higher levels of sophistication in manufacturing. The infant industry argument does not advocate permanent government intervention. As John Stuart Mill (1898) argued: … "the protection should be confined to cases in which there is good ground of assurance that the industry which it fosters will after a time be able to dispense with it".

- *Employment creation*
  To the extent that economic development takes place with the introduction of capital-intensive methods of production and the effective dismantling of the subsistence economy, overpopulated developing countries have the twin challenges of finding jobs for a naturally increasing population and those people that are displaced from the subsistence economy. To address this issue, it is necessary to implement selective trade policies.

- *Economic growth*
  The higher the level of value added in any production process, the higher the contribution to GDP will be. In pursuing import substitution, one of the primary goals has traditionally been related to the enhancement of economic growth through higher levels of MVA. Ideally, this process should be dynamic in terms of following a logical path via inter-industry linkages, e.g. the cotton farming/cotton milling/textile manufacturing/clothing manufacturing pipeline.

- *Foreign exchange savings*
  To the extent that the initial development of domestic industries does not require a huge outlay of imported capital equipment, a policy of import substitution logically implies foreign exchange savings. Countries that eventually manage to become competitive in the development of infant industries may also generate foreign exchange earnings through exports.

- *Source of government revenue*
  Moderate or marginal tariff levels do not significantly reduce import volumes, particularly during the early stages of import substitution. As a result, the import tariff has featured as an important source of government revenue to small, underdeveloped countries. To some extent, this revenue has provided governments in these countries with the financial resources necessary to provide supporting infrastructure to fledgling industries.

- *Combating of "new protectionism"*
  Trade restrictions aimed at preventing so-called "dumping" have always been recognised as a legitimate method to prevent countries from exporting at below cost. Dr Johan van Zyl (1984) has put forward a sound case for maintaining at least some level of trade protection to combat the effects of "new protectionism", which may also be labelled "dumping in disguise". This phenomenon occurs when governments provide domestic industries with a variety of support measures and subsidies designed to effectively lower the cost of manufacturing (e.g. export incentives or electricity concessions).

- *"Off the shelf" technology*
  Products and technologies targeted for import substitution have invariably been manufactured and utilised by more advanced economies for some time. Newly industrialising countries therefore have the advantage of securing a high return on research and development through obtaining technologies "off the shelf". In most cases, only limited engineering adaptation is required to the technology that suits local conditions.

- *Available market information*
  The availability of adequate information on demand and supply conditions in different markets is a crucial requirement for the efficient operation of a system of free enterprise. One of the advantages of a policy of import substitution is that information on the size and scope of the market for a particular product is well known and may simply be extracted from customs and excise records.
- *Strategic considerations*
  Certain non-economic arguments have also been forwarded to defend a policy of tariff protection. The national pursuit of strategic socio-political goals have often required governments to restrict the imports of certain goods in an effort to become less dependent on the rest of the world and, as an inference, less vulnerable to international sanctions. South Africa has proved to be a useful example of the "strategic industry" argument, particularly with regard to the development of its armaments industry and a large diesel engine plant in the Western Cape.

Arguments against trade barriers

Supporters of free trade doctrine have an equally impressive array of counter-arguments with regard to policies of protectionism. Any attempt to reach a conclusion on the issue of whether trade barriers should be abolished entirely or not, will have to isolate the prevailing socio-economic situation in a particular country. Key arguments against trade barriers are:

- *Balance of payments constraints*
  Import substitution often presents itself with a paradox: in order to become more self-sufficient in the manufacturing of certain goods, a country needs to import expensive processing machinery and equipment which in turn, can erode balance of payments stability long before the positive effects on foreign exchange savings start materialising.
- *Net welfare loss*
  Demand and supply analysis shows that the imposition of a tariff has three distinct effects that can be measured geometrically. The loss of so-called "consumer surplus" outweighs the combined gains of "producer surplus" and government revenue, resulting in a net national loss of welfare. Empirical estimates of this loss have been conducted for several countries, most of which have estimated them at between 0,1% and 1% of GNP.
- *Export bias*
  Import substitution often leads to a bias against exports by domestic producers as a result of higher input costs imposed by tariffs.
- *Retaliation*
  Countries that impose tariffs on imported goods often evoke retaliatory action in the form of tariffs being imposed on their exports to other countries. This argument is valid and has been one of the major reasons for the long-standing existence of international tariff regimes and the tendency during the greater part of the twentieth century for tariff levels to continue to increase. Unfortunately for many developing countries, this mode of recourse is not viable, due to their dependence on international development assistance and the fact that their exports are mainly comprised of primary products.
- *Administrative costs*
  Every form of government regulation involves the employment of resources (e.g. customs officials and office space) in order to enforce the particular regulation. Trade barriers are no exception, and these resources could have been made available for more productive uses elsewhere in the economy.
- *Higher prices*
  An obvious negative effect of import tariffs is to increase the domestic price of the targeted products, which may have extended inflationary implications for other industries that utilise such products as inputs in their own production process.

Other forms of trade restrictions are:

- Quantitative restrictions on imports, either in toto or on the basis of quotas.
- Safety regulations, which may lead to embargoes of goods that do not meet prescribed standards.
- Health regulations that prevent the trade in products that do not meet certain standards of hygiene.
- Country of origin demarcation of products that could act as a deterrent to trade between countries that are hostile towards one another.
- "Buy domestic" campaigns, designed to create awareness amongst domestic consumers of the socio-economic advantages of increasing MVA.
- Externally imposed restrictions in the form of trade embargoes.

2. Outward-looking trade policies

An alternative approach to import substitution as a vehicle for economic development and growth has emerged since especially the 1960s, namely that of an outward-looking trade strategy.

This new approach has mainly been linked to certain countries in East Asia, although developing countries in other parts of the world have also achieved a measure of success by implementing elements of an outward-looking strategy.

The champions of the outward-looking approach are known as the high-performing Asian economies (HPAEs), which comprise Hong Kong, South Korea, Singapore and Taiwan (a grouping also referred to as the "Four Tigers"), together with Japan, Indonesia, Malaysia and Thailand.

Since 1960, this group of eight countries has grown almost twice as fast as the rest of East Asia, three times as fast as Latin America and twenty times faster than Sub-Saharan Africa. All of these countries have actively sought to become increasingly open economies and, in the case of Taiwan, the total trade/GDP ratio increased from 50% in 1970 to 100% in 1997.

Substantial research has been conducted into the remarkable success achieved in economic transformation and growth in the HPAEs and various authoritative studies have shown that these eight economies share some economic characteristics and public policies that distinguish them from most other developing economies.

The outward-looking approach to economic development was not an exclusive strategy, but was implemented in conjunction with a more comprehensive development policy. The success of the HPAEs has been attributed to its ability to harmonise all the different elements of this broad-based development policy.

Its major components are:

- Sustaining agricultural development
  The agricultural sector is sometimes viewed as relatively unimportant in the quest to enhance comparative advantages and progress into sectors that may contribute to MVA. The HPAEs did not make the mistake of neglecting agriculture that plays a crucial and on-going role in the development process. Neglect of the agricultural sector can lead to severe balance of payments constraints through food imports, which can stifle attempts to develop the manufacturing sectors. A further aspect to be considered is the fact that agricultural workers are an important market for the output of the modern urban sector.

- A dynamic approach towards agricultural development was followed by most of the HPAEs, which included the following measures:
  - Land reform underpinned by the principles of individual property rights and free enterprise
  - The provision of agricultural extension services
  - The maintenance of reasonably good infrastructure
  - Public sector investment in rural areas
  - Agricultural research aimed at the utilisation of so-called green revolution technologies
  - Substantial investments in irrigation and general rural infrastructure

These policies allowed the HPAEs to secure high agricultural output levels through new crops and high-yielding crop varieties.

Macro-economic fundamentals

Prior to embarking on an export thrust, the HPAEs realised that fundamental macroeconomic stability was a necessary pre-condition for the success of any trade policies. Macroeconomic stability resulted in relatively low inflation and stable real interest rates which, in turn, encouraged long-term planning and investment by the private sector. Key elements of sound macroeconomic policy included the following:

- Fiscal deficits were generally limited to levels that could be financed without increasing inflationary pressures or result in interest rate volatility.
- Flexible labour markets, which resulted in wages being downwardly flexible in response to changes in the demand for labour. This allowed for rapid adjustment to macroeconomic shocks that, in turn, made sustained growth and high real wage growth possible over the longer term. An important element of labour policies in HPAEs has been their governments' relatively unresponsive attitude towards organised labour's demands, particularly with regard to minimum wage legislation.
- Capital market development in HPAEs has been guided by the public sector to encourage the diversion of credit towards specific sectors and firms. Although government relationships with the financial sector have varied widely in the HPAEs, they have generally involved specific intervention and regulations in credit markets. One common characteristic has been automatic access to credit for exporters.

Promoting specific industries

The success of most of the HPAEs to foster industrialisation through all its stages to mature, profitable industries housing internationally competitive firms was based on thorough research of supply and demand conditions and on a partnership approach between governments and the private sector. As a result, industrial policies have produced market-conforming results based on factor-based comparative advantage.

Building human capital

An initial emphasis of education spending on the lower grades was followed by an increase in the availability of secondary education. Tertiary education spending by the public sector was focused on the development of technical skills guided by the projected labour market conditions that would exist in future. Some of the HPAEs recruited educational services from abroad on a large scale, particularly in scarce and sophisticated disciplines.

Export-orientation

In most HPAEs, the targeting of industries for import substitution was done in such a way that they were foreseen to eventually become earners of foreign exchange. A variety of export incentives were utilised to achieve the growth in exports, and most HPAEs also actively sought foreign technology through a variety of mechanisms. These included the recruitment of highly skilled international experts, licensing agreements and imports of capital equipment.

Twin deficits

This concept refers to the existence of two potentially harmful economic phenomena, namely a government budget deficit and a current account (or international trade) deficit.

A government budget deficit is simply the difference between government revenue (mostly taxes) and government spending. As such, a budget deficit is within the domain of the state. In isolation, a given shortfall of revenue to match expenditure is neither uncommon nor does it represent a meaningful economic problem.

In order to assess the extent to which a budget deficit may pose a threat to fiscal and economic stability, it is necessary to express tit in terms of a percentage of a country's total economic output (GDP).

The European Union benchmark for fiscal stability has traditionally been 3%, but several EU member states have in the past decade recorded ratios of above this level without any serious repercussions. Deficit/GDP ratios that approach double-digit territory are nevertheless widely regarded as a sign of fiscal and economic instability, particularly from the perspective of rising capital market interest rates.

The latter raises the cost of servicing government debt at a time when a need exists to curb total government expenditure, thereby threatening a government's ability to provide basic public services.

A current account deficit is the difference between exports and imports (of goods, services and income). Both deficits occur when someone is spending more than they earn; during the last 25 years the US government has tended to spend more than it collects in taxes and US residents have tended to spend more on imports than they export.

If an individual spends more than he earns he must either borrow money or sell off some assets. Advice columns are filled with stories of people who regularly spend more than they owe and finance the difference with multiple credit card loans that they will never be able to pay off; eventually they face bankruptcy and a reduced standard of living. Presumably a country that follows the same path will experience the same problems.